



## 2013 Semi-Annual Baseline Groundwater Monitoring Report for Quarters 1 and 2

**Former Solutia Queeny Plant  
St. Louis, Missouri**

*Prepared for:*

**SWH Investments II**

*Prepared by:*

**Environmental Operations, Inc.  
1530 South 2<sup>nd</sup> Street, Suite 200  
St. Louis, Missouri 63104**

**June 28, 2013**

RCRA



Environmental Consulting & Remediation, Demolition, & Geotechnical Engineering

1530 South 2<sup>nd</sup> Street St. Louis, Missouri 63104-4500 314.241.0900

[www.environmentalops.com](http://www.environmentalops.com)



**Environmental  
Operations, Inc.**  
CLEARING THE WAY

June 28, 2013

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JUL 01 2013

AWMD/WRAP-KNRP

Mr. Bruce Morrison  
Project Manager  
U.S. Environmental Protection Agency, Region 7  
ART Division / RCRA Corrective Action  
11201 Renner Boulevard  
Lenexa, Kansas 66219

RE: Baseline Groundwater Monitoring Plan  
Semi-Annual Report - Quarters 1 and 2  
Former Solutia – John F. Queeny Plant  
St. Louis, Missouri  
**EPA ID No. MOD 004 954 111**

Dear Mr. Morrison:

This letter accompanies the delivery of the *Semi-Annual Baseline Groundwater Monitoring Report for Quarters 1 and 2* under the second year of monitoring for the Former Solutia John F. Queeny Plant to U.S Environmental Protection Agency (EPA). An electronic version is also provided.

Please let me know if you would like additional copies. I can be reached by phone at 314-480-4694, or via email at [larryr@environmentalops.com](mailto:larryr@environmentalops.com).

Respectfully submitted,

A handwritten signature in blue ink that reads "Lawrence C. Rosen".

Lawrence C. Rosen, R.G. / Project Manager  
Environmental Operations, Inc.

Attachment: Baseline Groundwater Monitoring Plan – Former Solutia Queeny Plant

Copies: *Mr. Michael House/Solutia*  
*Mr. Rich Nussbaum/MDNR*  
*Ms. Christine Kump-Mitchell/MDNR*

Environmental Consulting & Remediation, Demolition, & Geotechnical Engineering

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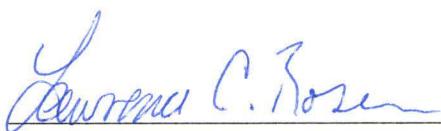
**June 28, 2013**

## CERTIFICATION

### Semi-Annual Baseline Groundwater Monitoring Report

#### State of Missouri Registered Professional Certification Page

I certify that I am a qualified geologist and groundwater scientist who has received a post graduate degree in the natural sciences, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and remediation of soil and groundwater. I further certify that this report was prepared by me or by a subordinate working under my direction.

  
\_\_\_\_\_  
Lawrence C. Rosen

Lawrence C. Rosen, R.G.

Registration No.: RG0012

Date: 6-28-13

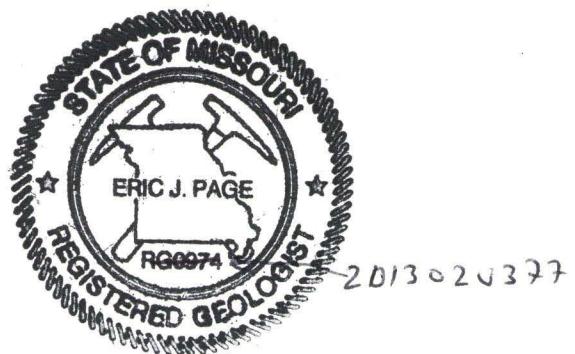


  
\_\_\_\_\_  
Eric J. Page

Eric J. Page, R.G.

Environmental Operations, Inc.

Date: 6/28/13



## TABLE OF CONTENTS

	<u>Page</u>
<b>1      INTRODUCTION.....</b>	<b>1</b>
1.1      Purpose.....	1
1.2      Location.....	1
<b>2      BACKGROUND .....</b>	<b>2</b>
2.1      Site Description.....	2
2.2      Site History .....	2
<b>3      SITE ACTIVITY .....</b>	<b>4</b>
3.1      Monitor Well Installation.....	4
3.2      Monitor Well Development .....	4
3.3      Groundwater Sampling .....	4
3.3.1      First Quarter Event.....	5
3.3.2      Second Quarter Event.....	5
<b>4      ANALYTICAL DATA .....</b>	<b>6</b>
<b>5      REPORT LIMITATIONS .....</b>	<b>7</b>

### LIST OF TABLES

- 1 Well Completion and Water Level Data
- 2 FF Area Wells: VOC and Natural Attenuation Parameters
- 3 Former APA Wells: VOC and Natural Attenuation Parameters
- 4 Former Bulk Chemical Storage Area Wells: VOC and Natural Attenuation Parameters

### LIST OF GRAPHS

- 1 FF Area Wells: VOC and Natural Attenuation Parameters
- 2 Former APA Wells: VOC and Natural Attenuation Parameters
- 3 Former Bulk Chemical Storage Area Wells: VOC and Natural Attenuation Parameters

### LIST OF FIGURES

- 1 Site Location Map
- 2 Site Map – Aerial Base
- 3 1<sup>st</sup> Quarter Groundwater Contours: Fill & Silty Clay Unit
- 4 1<sup>st</sup> Quarter Groundwater Contours: Sand and Bedrock Unit
- 5 2<sup>nd</sup> Quarter Groundwater Contours: Fill & Silty Clay Unit
- 6 2<sup>nd</sup> Quarter Groundwater Contours: Sand and Bedrock Unit

### APPENDICES

- A. First Quarter Laboratory Analytical Reports
- B. Second Quarter Laboratory Analytical Reports

### **List of Acronyms and Abbreviations**

<u>Acronym/Abbreviation</u>	<u>Definition</u>
APA	Acetanilides Production Area
AST	Above-ground storage tank
bgs	below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylenes
cm	centimeters
CFR	Code of Federal Regulations
CMS	Corrective Measure Study
COC	Constituents of Concern
DNAPL	Dense Non-Aqueous Phase Liquids
EOI	Environmental Operations, Inc.
FBCSA	Former Bulk Chemical Storage Area
GPS	Global Positioning System
IMWP	Interim Measures Work Plan
kg	kilogram
LNAPL	Light non-aqueous phase liquids
MDNR	Missouri Department of Natural Resources
MNA	Monitored Natural Attenuation
mg	Milligrams
NAPL	Non Aqueous Phase Liquid
PCB	Polychlorinated biphenyls
PPE	Personal protective equipment
PRG	Project Remediation Goal

PVC	Polyvinyl chloride
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
Site	Former Solutia Queeny Plant
SOP	Standard Operating Procedures
SWMU	Solid Waste Management Unit
TSCA	Toxic Substances Control Act
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	Underground Storage Tank

## **1 INTRODUCTION**

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### **1.1 Purpose**

This monitoring program was developed to evaluate site-wide groundwater for the former FF Building Area and the former APA, and monitor groundwater discharging to the Mississippi River from the FBCSA. The program will also monitor continued plume stability and MNA parameters. This program consists of the following elements: monitoring well installation and development; water level and non-aqueous phase liquid (NAPL) gauging, well inspections and maintenance and groundwater sampling; data management, evaluation and reporting.

The semi-annual report is a data report that will consist of field sheets, groundwater elevation contour maps, and a summary of the validated laboratory analytical data and copies of the laboratory data. It does not include remediation activity evaluation. The subsequent annual report will contain data evaluation, analysis, and recommendations.

### **1.2 Location**

The Former Solutia J.F. Queeny Plant (Queeny Plant or Site) located between Lesperance and Barton Streets and First and Second Streets in St Louis, Missouri. A single address often provided for the Queeny Plant is 200 Russell Street, St Louis, Missouri. Figure 1-1 is a general Site Location Map showing the Queeny Plant located in the western portion of the Cahokia, Illinois, U.S. Geological Survey (USGS) topographic quadrangle. SWH Investments II legally purchased the Queeny Plant and assumed the environmental obligations for the property effective June 13, 2008. Environmental Operations, Inc. (EOI), in affiliation with SWH Investments II, is assuming the responsibilities for the environmental obligations for the Queeny Plant in order to prepare the property for redevelopment for light industrial and commercial use.

## **2 BACKGROUND**

---

### **2.1 Site Description**

The Queeny Plant occupies approximately 36 contiguous acres and is located in eastern St. Louis City approximately between First and Second Streets and Lesperance and Barton Streets; a separate parcel of approximately two acres (i.e., the FBSCA) lies south of the contiguous 36 acres at the northeast intersection of First and Victor Streets. The Queeny Plant is located in the western portion of the Cahokia, Illinois, U.S. Geological Survey (USGS) topographic quadrangle (Figure 1). The plant is located on the west bank of the Mississippi River at River Mile 178.

The Queeny Plant is located in an area that is zoned and developed for industrial and commercial uses and is expected to remain so for the foreseeable future. The site is proximate to a major transportation corridor provided by the Mississippi River, several interstate highways, and a large railroad center. Figure 2 is an aerial photograph that shows the Queeny Plant in relation to the surrounding area. Areas surrounding the facility are used for industrial and commercial operations. Current access to the site is restricted.

### **2.2 Site History**

The Monsanto Chemical Works began site operations on six acres at its current location in 1901 with the chemical manufacturing of Saccharin. In 1933 Monsanto Chemical Works changed its name to Monsanto Chemical Company. The company underwent another re-naming in 1964 and became the Monsanto Company. Solutia Inc. was formed from a spin-off of the chemicals business of the Monsanto Company on September 1, 1997.

Since its inception, the Queeny plant has manufactured over 200 products using over 800 raw materials. The major products have included but are not limited to the following: process chemicals such as maleic anhydride, fumaric acid, toluene sulfonic acid, and paranitrophenetole; plasticizers such as phthalate esters and toluene sulfonamides; synthetic functional fluids such as Pydraul™, Skydrols™, and coolanols; food and fine chemicals such as salicylic acid, aspirin, methyl salicylate, benzoic acid, and ethavan; and agricultural chemicals such as Lasso™ (i.e., acetanilides or alachlor). The three areas which this work covers are briefly described below.

**FF Building Area.** The area associated with the FF Building that constitutes the SWMU includes the footprint of the former building (an area of approximately 150 feet by 75 feet) and the surrounding area including a former underground storage tank (UST). The ground covering in this area is asphalt, and crushed and compacted stone. This area is currently not used and no buildings are located in the area.

**Former Acetanilides Production Area.** The APA produced acetanilides or alachlor also referred to as Lasso™, and it is located in the south-central portion of the Queeny Plant. The estimated size of this manufacturing block is 300 feet by 450 feet. This production area began operations in 1966, as a multi-product facility. The Lasso™ operations ceased in 1991. The ground covering in this area consists of buildings, asphalt, concrete foundations of former aboveground storage tanks, and railroad ballast near the railroad spur.

**Former Bulk Chemical Storage Area.** The FBCSA approximates a parallelogram shaped parcel of land approximately 285 feet by 300 feet, or approximately 1.94 acres. It was purchased by Monsanto in 1968 from Clark Oil Company and included two 500,000 gallon aboveground storage tanks (ASTs) and two 300,000 gallon ASTs that were used by Clark for fuel storage. After the 1968 purchase, raw materials used at the Queeny Plant were unloaded from a barge terminal, located on the west bank of the Mississippi River, and pumped into these tanks for storage. Materials stored at the terminal by Monsanto and others included: petroleum products, alkyl benzenes, blends of alkyl benzenes (Purex A-220 and Canadian A-221), Santicizer 154 plasticizer (p-t-butylphenyl diphenyl phosphate), monochlorobenzene, ortho-nitrochlorobenzene, sodium hydroxide, and potassium hydroxide. The use of this area was discontinued in 1987 and the tanks were removed. This area has at times been leased to other companies as open space storage.

The ground covering in this area is asphalt, crushed and compacted stone, and sparse volunteer vegetation. The SWMU is located outside of the Queeny Plant main property and site security fence, but is enclosed by a locked security fence.

### **3 SITE ACTIVITY**

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The BGMP identified the need to install wells to complete the network in addition to collection of groundwater samples. This section briefly describes well installation activities and groundwater sample collection.

#### **3.1 Monitor Well Installation**

Monitoring well installation include replacement of one well in the network. GM-2 in the APA was found to be damaged and inaccessible at the time of the sampling event that commenced in September 2012. The well was replaced and available for sampling during the February 2013 event. The well designation GM-2 was retained. All well installation boring logs and well installation/construction details from both phases of installation will be included in the annual report.

Well were installed in accordance with state of Missouri guidelines by a permitted Missouri well driller. Monitoring wells were constructed of two-inch diameter Schedule 40 polyvinyl chloride (PVC) casing, with a minimum ten foot section of 0.010-in. well screen. The surface completion of the monitoring wells included placement of a concrete pad, installation of locking caps and stickup or flush mount well covers, and placement of bumper posts, as necessary.

#### **3.2 Monitor Well Development**

The monitoring well GM-2 was developed to remove the fines from the well and sand pack. This was performed using a conventional groundwater pump or equivalent methods suitable for well development. Each monitoring well was developed until a minimum of five well volumes were removed and pH, specific conductance, and temperature readings stabilize within 10% over a minimum of two successive readings. In addition, the turbidity of the development water was observed to ensure that fines have been removed.

#### **3.3 Groundwater Sampling**

Prior to each sampling round, groundwater level and NAPL measurements were obtained from the available existing network of monitoring wells and piezometers at the site. These data were used to develop groundwater elevation contour maps during the two sampling events for each hydrostratigraphic zone. Figure 3 and 4 are for the clay and silt unit and bedrock and sand units, respectively for the first quarter. Figure 5 and 6 are for the clay and silt unit and bedrock and sand units, respectively for the second quarter.

Groundwater samples were collected using low-flow methodologies including a flow-through cell. The groundwater sampling proceeded from the least impacted wells to the most impacted in each of the areas. Equipment used for sampling that could contact groundwater was properly decontaminated before each use. Field instruments were calibrated prior to use in accordance with the manufacturer's specifications.

The monitoring wells were purged using a conventional groundwater pump, suitable for low flow applications (i.e., bladder pump [or equivalent]). Field documentation will note drawdown and pumping rate. Each monitoring well was purged until pH, specific conductance, and temperature stabilize over a minimum of three successive flow-through cell volumes. In addition, turbidity was measured but not used as sampling criteria. The field parameters were measured and recorded on monitoring well sampling sheets during purging.

After the relevant parameters stabilized, the flow-through cell was bypassed for sampling. Personnel conducting the groundwater sampling wore clean disposable protective gloves.

To verify field and laboratory procedures, quality assurance/quality control (QA/QC) samples consisting of duplicate samples, matrix spike/matrix spike duplicate (MS/MSD) samples, matrix spike/matrix duplicate ((MS/MD) MNA only), and trip blanks were collected and submitted to the laboratory. QA/QC samples were collected at a frequency of 10% for duplicates and blanks and 5% for MS/MSDs. One trip blank (prepared by the lab) accompany each cooler shipment containing samples for VOC analysis.

A chain-of-custody documentation was completed by the field sampler and provided for each sample cooler. Sampling containers were packed in such a way as to help prevent breakage and cross-contamination. Samples were shipped in coolers, each containing a chain-of-custody form(s) and ice packs to maintain inside temperature at approximately  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . Sample coolers were sealed between the lid and sides of the cooler with a custody seal prior to shipment. Samples were either picked up by Pace or hand-delivered to their facility at 4120 Seven Hills Drive in Florissant, Missouri.

### **3.3.1 First Quarter Event**

The first quarter of sampling was initiated on September 24, 2012. Samples were collected on September 24-27, October 1-4, and 22, 2012. Per the revised sampling schedule approved by EPA, this round included sampling all the wells in the network. Groundwater contours for the fill/silty clay unit are shown in Figure 3. Groundwater contours for the sand and bedrock units are shown in Figure 4.

### **3.3.2 Second Quarter Event**

The second quarter sampling commenced on February 4, 2013. Groundwater samples were collected on February 4-7, 11, and 13, 2013. Per the revised sampling schedule approved by EPA, this round included sampling a subset of the wells in the network. Groundwater contours for the fill/silty clay unit are shown in Figure 5. Groundwater contours for the sand and bedrock units are shown in Figure 6.

## **4 ANALYTICAL DATA**

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The analytical data are summarized in the report tables. The tables are separated by area of the Site, with the first page for a well location having the VOA data, and the second page the lab and field values for the natural attenuation parameters. For any given location, if two columns are shown for a given date, the second column represents a duplicate analysis.

The laboratory analytical results for the groundwater samples, where sufficient data exist, are presented in graphs to more readily visualize changes. Breaks in the graphs represent no data for a given event. This may be the result of laboratory detection limits, no groundwater, or that a well was not accessible. Formal laboratory reports for the first and second quarter are presented in Appendices A and B, respectively.

## **5 REPORT LIMITATIONS**

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This report has been prepared in accordance with normally accepted environmental engineering practices for gas probe monitoring and reporting. Conclusions presented in this report are EOI's interpretation and comprise a professional opinion based on this data. No other warranty, express or implied, is made regarding the information presented in this report. In the event that conclusions and recommendations, based on the data presented in this report, are made by others, such conclusions and recommendations are their responsibility.

EOI has exercised reasonable skill, care, and diligence in preparation of this report in accordance with generally accepted standards of good professional practice in effect at the time this report was prepared.

Conditions inferred to exist between sampling points might differ significantly from actual conditions. Changes in subsurface conditions can be influenced by many factors. These factors include but are not limited to: management of surrounding areas, off-site contaminant sources, seasonal rainfall fluctuations, changes in drainage conditions in and around the landfill, changes in contaminant source area and composition, groundwater occurrence, and biodegradation. Over time, actual conditions revealed through sampling can vary due to natural occurrences and/or man-made interference on or near the site.

**TABLES**

**TABLE 1**  
**WELL COMPLETION AND WATER LEVEL DATA**

**TABLE 1**  
**Monitoring Well and Piezometer Network Completion & Summary Water Levels**

Monitoring Well Identification	Top of Casing Elevation (ft MSL)	Total Well Depth (ft btoc)	Bottom of Well Elevation (ft btoc)	Screened Interval (ft MSL)	Screened Interval Elevation (ft MSL)	Water Level bTOC (ft)	August 2011 MSL (ft)	Water Level bTOC (ft)	December 2011 MSL (ft)	Water Level bTOC (ft)	March 2012 MSL (ft)	Water Level bTOC (ft)	June 2012 MSL (ft)	Water Level bTOC (ft)	September 2012 MSL (ft)	Water Level bTOC (ft)	February 2013 MSL (ft)
<b>Fill/Silty Clay Wells</b>																	
GM-1	425.16	13.37	411.79	(8.50-13.50)	(417.02-412.02)	10.10	415.06	11.80	413.36	9.40	415.76	10.21	414.95	10.00	415.16	9.83	415.33
GM-2	425.06	12.33	412.73	(6.75-11.75)	(418.83-413.83)	10.41	414.65	9.80	415.26	9.55	415.51	10.26	414.80	dry	NA	6.30	418.76
FBCSA-MW-5	417.49	19.46	398.03	(9.46-19.46)	(388.03-398.03)	11.27	406.22	10.63	406.86	10.08	407.41	10.30	407.19	11.92	405.57	11.83	405.66
HW-2	423.25	29.00	394.25	(14.00-29.00)	(409.25-394.25)	17.43	405.82	29.25	394.00	Not accessible	NA	Not accessible	NA	Not accessible	NA	Not accessible	NA
LPZ-2	422.95	22.09	400.86	(7.52-22.52)	(415.94-400.94)	Blocked Screen	NA	7.62	415.33	9.83	413.12	10.80	412.15	10.37	412.58	10.38	412.57
LPZ-4	423.62	22.00	401.62	(7.62-22.62)	(416.62-401.62)	9.54	414.08	4.99	418.63	11.59	412.03	11.02	412.60	Not accessible	NA	Not accessible	NA
LPZ-5	423.64	21.78	401.86	(11.78-21.78)	(391.86-401.86)	10.03	413.61	5.88	417.76	11.59	412.05	10.89	412.75	12.19	411.45	11.63	412.01
MW-2B	430.16	29.28	400.88	(17.16-27.16)	(413.64-403.64)	16.75	413.41	22.51	407.65	16.60	413.56	18.24	411.92	18.66	411.50	NM	NA
MW-3	424.85	30.47	394.38	(22.65-32.65)	(402.84-392.84)	12.24	412.61	20.90	403.95	12.51	412.34	13.45	411.40	14.03	410.82	NM	NA
MW-4	427.33	18.32	409.01	(9.51-19.51)	(417.88-407.88)	10.16	417.17	13.89	413.44	8.23	419.10	9.45	417.88	9.60	417.73	9.45	417.88
MW-5R	420.91	15.27	405.64	(6.14-16.14)	(419.88-409.88)	Not installed	Not installed	Not installed	Not installed	6.15	414.76	7.10	413.81	6.31	414.60	NM	NA
MW-9	425.84	41.53	384.31	(33.92-44.42)	(391.14-380.64)	16.88	408.96	21.62	404.22	22.83	403.01	21.27	404.57	23.84	402.00	NM	NA
MW-11A	425.86	74.30	351.56	(70.17-80.17)	(356.04-346.04)	14.14	411.72	22.96	402.90	14.49	411.37	15.28	410.58	14.60	411.26	NM	NA
MW-13	425.31	51.84	373.47	(9.99-49.99)	(415.94-375.94)	13.73	411.58	16.42	408.89	12.79	412.52	13.80	411.51	13.82	411.49	NM	NA
MW-15	426.05	17.97	408.08	(12.97-17.97)	(403.08-408.08)	14.71	411.34	14.21	411.84	13.16	412.89	13.75	412.30	13.31	412.74	NM	NA
MW-19	423.53	15.34	408.19	(10.50-15.50)	(413.58-408.58)	11.00	412.53	13.01	410.52	9.59	413.94	10.92	412.61	10.64	412.89	9.72	413.81
MW-23	423.87	24.40	399.47	(15.25-25.25)	(409.74-399.740)	11.41	NA	11.81	412.06	11.81	412.06	12.71	411.16	12.78	411.09	NM	NA
MW-24A	420.22	28.24	391.98	(18.45-28.45)	(402.35-392.35)	20.07	400.15	24.00	396.22	24.00	396.22	24.47	395.75	19.12	401.10	23.71	396.51
MW-25A	419.30	29.90	389.40	(20.76-30.76)	(399.14-389.14)	22.46	396.84	20.47	398.83	20.47	398.83	21.02	398.28	20.04	399.26	NM	NA
MW-28A	422.11	12.26	409.85	(7.6-12.6)	(415.04-410.04)	No access	No access	5.95	416.16	5.95	416.16	6.34	415.77	6.40	415.71	NM	NA
MW-30A	419.14	17.13	402.01	(8.16-18.16)	(410.74-400.74)	No access	No access	30.66	388.48	30.66	388.48	29.91	389.23	29.91	389.23	29.91	389.23
MW-32A	420.88	27.94	392.94	(17.96-27.96)	(392.92-402.92)	26.72	394.16	23.26	397.62	22.57	398.31	dry	NA	dry	NA	NM	NA
MW-33A	418.40	28.70	389.70	(18.72-28.72)	(389.68-399.68)	20.72	397.68	20.73	397.67	20.73	397.67	26.82	391.58	27.62	390.78	NM	NA
MW-36A	420.15	22.69	397.46	(12.69-22.69)	(387.46-397.46)	Not installed	Not installed	Not installed	Not installed	12.90	407.25	12.67	407.48	14.66	405.49	13.52	406.63
MW-38A	422.86	17.71	405.15	(7.71-17.71)	(395.69-405.69)	Not installed	Not installed	Not installed	Not installed	13.21	409.65	13.76	409.10	14.86	408.00	12.62	410.24
MW-39A	425.98	20.09	405.89	(10.11-20.11)	(405.87-415.87)	13.53	412.45	13.28	412.70	14.25	411.73	13.93	412.05	15.68	410.30	NM	NA
REC-1	423.87	44.05	379.82	(20.00-40.00)	(401.58-380.58)	13.54	410.33	17.63	406.24	11.83	412.04	13.25	410.62	10.51	413.36	9.63	414.24
VW-1	418.50	16.04	402.46	(6.00-16.00)	(413.12-403.12)	9.33	409.17	9.61	408.89	9.02	409.48	9.89	408.61	9.85	408.65	9.09	409.41
VW-2	418.89	13.18	405.71	(6.00-16.00)	(413.17-403.17)	9.81	409.08	9.63	409.26	9.91	408.98	10.30	408.59	10.76	408.13	13.00	405.89
<b>Sand Wells</b>																	
HW-1	422.56	47.69	374.87	(32.00-47.00)	(391.13-376.13)	25.28	397.28	dry	NA	dry	NA	dry	NA	dry	NA	NM	NA
MW-2A	430.06	50.10	379.96	(40.10-50.10)	(389.96-379.96)	22.53	407.53	Blocked @ ~20'	NA	18.44	411.62	19.20	410.86	19.79	410.27	NM	NA
MW-24B	420.21	44.54	375.67	(35.4-45.4)	(385.44-375.44)	23.21	397.00	26.32	393.89	22.33	397.88	33.20	387.01	33.20	387.01	23.46	396.75
MW-25B	419.35	47.37	371.98	(37.55-47.55)	(382.44-372.44)	18.26	401.09	22.90	396.45	22.29	397.06	32.80	386.55	42.42	376.93	NM	NA
MW-28B	422.05	42.10	379.95	(37.49-42.49)	(385.24-380.24)	No access	No access	22.51	399.54	dry	NA	32.91	389.14	38.87	383.18	37.43	384.62
MW-30B	419.34	76.50	418.89	(66.15-76.15)	(352.84-34												

**TABLE 2**  
**FF AREA WELLS**  
**VOC AND NATURAL ATTENUATION PARAMETERS**

MW-2A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result	Sample Date & Result					
			& Result	& Result	& Result	& Result	4/3/2012	6/27/2012	9/27/2012
1,1,1-Trichloroethane	71-55-6	200	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	-	9.7	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	-	9.8	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	3.1	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	0.88	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-2A  
Former FF Building Area

Contituent	CAS	Sample Date & Result					
<b>Lab</b>		9/2/2011	12/29/2011	12/29/2011	4/3/2012	6/27/2012	9/27/2012
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.01	<0.010	<0.010	<0.0066	<0.0066	<0.0066
Iron	7439-89-6	24.1	6.84	6.54	0.792	0.552	0.642
Manganese	7439-96-5	0.73	2.6	2.59	0.113	0.15	0.474
Alkalinity		266	388	388	290	452	402
Total Dissolved Solids		1160	950	992	399	817	771
pH		7.4	6.7	6.7	7.4	7.7	6.9
Chloride	16887-00-6	402	235	220	21.8	72.2	75.5
Sulfate	14808-79-8	133	197	187	38.7	176	152
Nitrogen, Nitrate		0.64	<0.10	<0.10	1.1	0.16	0.21
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		0.67	<0.10	<0.10	1.1	0.18	0.22
Total Organic Carbon	7440-44-0	4	<0.50	<0.50	3.6	2.1	1.8
Carbon Dioxide	124-38-9	250	496	496	278	416	455
<b>Field</b>							
Dissolved Iron		0	0	-	0	-	-
Dissolved Manganese		0	0	-	0	-	-
DO		2.02	310	-	0.28	0.64	1.36
pH		7.23	7.25	-	7.24	6.84	6.94
ORP		65.3	80.2	-	70.1	72	110
Temperature		21.79	22.75	-	23.77	27.35	19.02

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-2B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	-	40.6	11.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	-	10.3	9.9	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	220	3.2	3.1	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-2B  
Former FF Building Area

Contingent	CAS	Sample Date & Result					
<b>Lab</b>		9/2/2011	9/2/2011	12/29/2011	4/3/2012	6/27/2012	9/27/2012
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.0133	<0.010	<0.010	<0.0066	<0.0066	<0.0066
Iron	7439-89-6	1.25	0.493	<0.050	0.0828	0.0792	0.354
Manganese	7439-96-5	0.51	0.103	0.132	0.299	0.414	0.479
Alkalinity		435	285	0.368	414	380	381
Total Dissolved Solids		1250	1240	0.966	1060	1070	1080
pH		7.2	7.3	6.8	6.6	7.1	7.3
Chloride	16887-00-6	340	448	208	220	235	227
Sulfate	14808-79-8	136	135	181	176	202	204
Nitrogen, Nitrate		0.51	0.63	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		0.51	0.64	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	3.6	2.9	<0.5	1.6	1.9	1.6
Carbon Dioxide	124-38-9	426	272	440	567	395	374
<b>Field</b>							
Dissolved Iron		0	-	0	0	-	-
Dissolved Manganese		0	-	0	0	-	-
DO		330	-	340	2.25	0.84	0.53
pH		6.63	-	6.67	6.57	6.44	6.46
ORP		77.7	-	91.3	86.5	107.8	131.3
Temperature		19.81	-	20.11	21.1	25.33	18.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-3  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result												
			6/20/2000	4/30/2004	8/25/2004	8/25/2004	1/13/2005	3/2/2005	9/1/2011	12/21/2011	4/12/2012	4/12/2012	6/27/2012	6/27/2012	9/26/2012
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	0.62	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	-	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	85	39	28	26	57	27	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	400	1100	680	680	1200	710	1.9	7.5	8.2	8.6	9.7	10.5	25.6
Ethylbenzene	100-41-4	700	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	310	630	690	680	-	530	<1.0	6.5	5.0	4.4	4.8	6.3	7.7
Toluene	108-88-3	100	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	19	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	160	280	220	220	380	200	<1.0	2.5	1.3	1.7	3.0	3.7	4.1
Vinyl chloride	75-01-4	2	14	-	-	-	23	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	-	-	-	-	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"--" indicates no data

MW-3  
Former FF Building Area

Contituent	CAS	Sample Date & Result												
<b>Lab</b>		4/30/2004	8/25/2004	8/25/2004	1/13/2005	3/2/2005	9/1/2011	12/21/2011	4/12/2012	4/12/2012	6/27/2012	6/27/2012	9/26/2012	
Ethane	74-84-0	0.00082	-	-	-	0.00082	<0.010	<0.010	<0.0124	<0.0124	<0.0062	<0.0062	<0.0062	
Ethene	74-85-1	-	-	-	-	-	<0.010	<0.010	<0.0124	<0.0124	<0.0062	<0.0062	<0.0062	
Methane	74-82-8	0.027	0.01	0.013	0.014	0.04	0.012	<0.010	<0.0066	0.0071	0.031	0.0207	0.0214	
Iron	7439-89-6	-	-	-	-	-	4.61	29.3	61.1	67.6	5.46	21.8	4.71	
Manganese	7439-96-5	-	-	-	-	-	0.604	3.05	2.74	3.29	2.46	2.59	2.00	
Alkalinity		190	190	200	240	200	509	680	260	338	255	255	248	
Total Dissolved Solids		-	-	-	-	-	2540	1090	868	844	793	800	815	
pH		-	-	-	-	-	7.2	7.6	7.4	7.5	7.9	8	7.9	
Chloride	16887-00-6	2900	2900	3000	2600	2500	1150	382	297	297	261	278	255	
Sulfate	14808-79-8	54	53	53	62	56	137	67.2	51.3	53.4	52	52.3	51.2	
Nitrogen, Nitrate		-	-	-	-	-	0.42	<0.10	0.44	0.3	<0.10	<0.10	<0.10	
Nitrogen, Nitrite		-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	-	0.43	<0.10	0.5	0.3	<0.10	<0.10	<0.10	
Total Organic Carbon	7440-44-0	1.9	2.3	2.4	2.5	2.7	4.7	0.53	4.9	4.8	5.3	4.7	6.7	
Carbon Dioxide	124-38-9	81	56	59	44	34	484	633	250	319	230	229	224	
<b>Field</b>														
Dissolved Iron		-	-	-	-	-	-	-	-	-	0	-	-	
Dissolved Manganese		-	-	-	-	-	-	-	-	-	0	-	-	
DO		-	-	-	-	-	240	1.5	-	0.02	0.39	-	1.1	
pH		-	-	-	-	-	7.27	7.62	-	7.3	7.29	-	7.83	
ORP		-	-	-	-	-	182.1	239.7	-	196.4	103.3	-	77.8	
Temperature		-	-	-	-	-	18.15	14.82	-	18.46	23.13	-	22.20	

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-28A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date &	Sample Date &	Sample Date &	Sample Date &
			Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<5.0	<1.0	<1.0	dry
1,2-Dichloroethane	107-06-2	5	<5.0	<1.0	<1.0	dry
Acetone	67-64-1	12000	<50.0	<10.0	<10.0	dry
Benzene	71-43-2	5	<5.0	<1.0	<1.0	dry
Carbon disulfide	75-15-0	720	<25.0	<5.0	<5.0	dry
Chlorobenzene	108-90-7	100	<5.0	2.2	7.2	dry
Chloroform	67-66-3	80	<5.0	<1.0	<1.0	dry
cis-1,2-Dichloroethene	156-59-2	70	<5.0	<1.0	17.9	dry
Ethylbenzene	100-41-4	700	<5.0	<1.0	<1.0	dry
Iodomethane	74-88-4	No RSL	<50.0	<10.0	<10.0	dry
Methylene chloride	75-09-2	5	<5.0	<1.0	<1.0	dry
Tetrachloroethene	127-18-4	5	<5.0	<1.0	<1.0	dry
Toluene	108-88-3	100	<5.0	<1.0	<1.0	dry
trans-1,2-Dichloroethene	156-60-5	100	<5.0	<1.0	<1.0	dry
Trichloroethene	79-01-6	5	<5.0	<1.0	<1.0	dry
Vinyl chloride	75-01-4	2	<5.0	<1.0	1.1	dry
Xylene (Total)	1330-20-7	10000	<15.0	<3.0	<3.0	dry

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"\_" indicates no data

MW-28A  
Former FF Building Area

Constituent	CAS	Sample Date & Result			
<b>Lab</b>		12/22/2011	4/3/2012	7/5/2012	10/1/2012
Ethane	74-84-0	<0.010	<0.0124	<0.0062	-
Ethene	74-85-1	<0.010	<0.0124	<0.0062	-
Methane	74-82-8	3.54	8.82	5.44	-
Iron	7439-89-6	23	18.8	16.6	-
Manganese	7439-96-5	0.46	0.35	0.315	-
Alkalinity		330	328	323	-
Total Dissolved Solids		389	347	364	-
pH		6.8	6.9	7.0	-
Chloride	16887-00-6	4.4	4.3	4.8	-
Sulfate	14808-79-8	48.2	<1.0	<1	-
Nitrogen, Nitrate		<0.10	<0.10	<0.10	-
Nitrogen, Nitrite		<0.10	<0.10	<0.10	-
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	-
Total Organic Carbon	7440-44-0	44.9	11.3	12.6	-
Carbon Dioxide	124-38-9	395	371	349	-
<b>Field</b>					
Dissolved Iron		0	0	5.5	-
Dissolved Manganese		0	0	0	-
DO		430	0.04	1.9	-
pH		6.85	6.88	6.81	-
ORP		-110.1	-112.7	-145.4	-
Temperature		17.53	21.08	38.24	-

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-28B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result			
			7/20/2000	7/12/2012	10/1/2012	2/11/2013
1,1,1-Trichloroethane	71-55-6	200	-	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	54.7	<10.0	17
Benzene	71-43-2	5	1.5	<1.0	<1.0	33.5
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	120	245	10.7	1540
Chloroform	67-66-3	80	-	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

7/2013

502

102

MW-28B  
Former FF Building Area

Contituent	CAS	Sample Date & Result				
<b>Lab</b>		12/16/2011	4/3/2012	7/12/2012	10/1/2012	2/11/2013
Ethane	74-84-0	-	-	<0.0062	0.0362	0.544
Ethene	74-85-1	-	-	<0.0062	<0.0062	<0.0062
Methane	74-82-8	-	-	5.7	8.27	7.74
Iron	7439-89-6	-	-	33.9	28.0	69.8
Manganese	7439-96-5	-	-	0.448	0.505	1.11
Alkalinity		-	-	1420	1720	1500
Total Dissolved Solids		-	-	1600	1610	1400
pH		-	-	7.0	7.0	7.4
Chloride	16887-00-6	-	-	195	135	139
Sulfate	14808-79-8	-	-	2.2	22.8	2.6
Nitrogen, Nitrate		-	-	0.3	<0.10	<0.10
Nitrogen, Nitrite		-	-	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	0.31	<0.10	<0.10
Total Organic Carbon	7440-44-0	-	-	34.6	18.4	41.2
Carbon Dioxide	124-38-9	-	-	1530	1860	1320
<b>Field</b>						
Dissolved Iron		-	-	3.6	-	0
Dissolved Manganese		-	-	0	-	0
DO		-	-	1.42	0.52	0.36
pH		-	-	6.81	6.78	6.72
ORP		-	-	-136.7	-87.8	-92.6
Temperature		-	-	-	16.44	15.34

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-30A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result			
			4/2/2012	6/28/2012	9/12/2012	2/11/2013
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	dry	dry
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	dry	dry
Acetone	67-64-1	12000	<10.0	<10.0	dry	dry
Benzene	71-43-2	5	<1.0	<1.0	dry	dry
Carbon disulfide	75-15-0	720	<5.0	<5.0	dry	dry
Chlorobenzene	108-90-7	100	7.5	39.7	dry	dry
Chloroform	67-66-3	80	<1.0	<1.0	dry	dry
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	dry	dry
Ethylbenzene	100-41-4	700	<1.0	<1.0	dry	dry
Iodomethane	74-88-4	No RSL	<10.0	<10.0	dry	dry
Methylene chloride	75-09-2	5	<1.0	<1.0	dry	dry
Tetrachloroethene	127-18-4	5	<1.0	<1.0	dry	dry
Toluene	108-88-3	100	<1.0	<1.0	dry	dry
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	dry	dry
Trichloroethene	79-01-6	5	<1.0	<1.0	dry	dry
Vinyl chloride	75-01-4	2	<1.0	<1.0	dry	dry
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	dry	dry

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-30A  
Former FF Building Area

Contingent	CAS	Sample Date & Result			
<b>Lab</b>		4/2/2012	6/28/2012	10/3/2012	2/7/2013
Ethane	74-84-0	<0.0124	<0.0062	-	-
Ethene	74-85-1	<0.0124	<0.0062	-	-
Methane	74-82-8	0.298	0.54	-	-
Iron	7439-89-6	0.154	<0.05	-	-
Manganese	7439-96-5	3.12	3.73	-	-
Alkalinity		522	578	-	-
Total Dissolved Solids		1260	1170	-	-
pH		6.9	8.4	-	-
Chloride	16887-00-6	189	117	-	-
Sulfate	14808-79-8	321	276	-	-
Nitrogen, Nitrate		7.3	<0.10	-	-
Nitrogen, Nitrite		0.94	0.96	-	-
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		8.2	0.96	-	-
Total Organic Carbon	7440-44-0	10.9	43.2	-	-
Carbon Dioxide	124-38-9	582	513	-	-
<b>Field</b>					
Dissolved Iron		0	0	-	-
Dissolved Manganese		0.5	0.2	-	-
DO		0.59	0.7	-	-
pH		6.64	6.72	-	-
ORP		63.4	44.1	-	-
Temperature		22.56	19.33	-	-

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-30B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result				
			7/12/2000	12/22/2011	4/2/2012	6/28/2012	10/3/2012
1,1,1-Trichloroethane	71-55-6	200	-	<20.0	<20.0	<50.0	<5.0
1,2-Dichloroethane	107-06-2	5	-	<20.0	<20.0	<50.0	<5.0
Acetone	67-64-1	12000	-	<200.0	<200.0	<500.0	<50.0
Benzene	71-43-2	5	7	<20.0	<20.0	<50.0	<5.0
Carbon disulfide	75-15-0	720	-	<100.0	<100.0	<250	<250
Chlorobenzene	108-90-7	100	210	1160	4070	2420	664
Chloroform	67-66-3	80	-	<20.0	<20.0	<50.0	<5.0
cis-1,2-Dichloroethene	156-59-2	70	1.8	<20.0	<20.0	<50.0	<5.0
Ethylbenzene	100-41-4	700	-	<20.0	<20.0	<50.0	<5.0
Iodomethane	74-88-4	No RSL	-	<200.0	<200.0	<500.0	<50.0
Methylene chloride	75-09-2	5	-	<20.0	<20.0	<50.0	<5.0
Tetrachloroethene	127-18-4	5	-	<20.0	<20.0	<50.0	<5.0
Toluene	108-88-3	100	0.62	<20.0	<20.0	<50.0	<5.0
trans-1,2-Dichloroethene	156-60-5	100	-	<20.0	<20.0	<50.0	<5.0
Trichloroethene	79-01-6	5	-	<20.0	<20.0	<50.0	<5.0
Vinyl chloride	75-01-4	2	36	<20.0	<20.0	<50.0	<5.0
Xylene (Total)	1330-20-7	10000	-	<60.0	<60.0	<150	<15

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

7/13

5.6

4/40

70

MW-30B  
Former FF Building Area

Constituent	CAS	Sample Date & Result				
<b>Lab</b>		12/21/2011	4/2/2012	6/28/2012	10/3/2012	2/7/2013
Ethane	74-84-0	0.201	1.06	0.453	0.0127	<0.0062
Ethene	74-85-1	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	0.135	1.19	0.423	0.0069	<0.0066
Iron	7439-89-6	22.5	23	15.7	11.1	18.2
Manganese	7439-96-5	3.01	2.02	2.27	2.45	1.32
Alkalinity		845	626	652	658	500
Total Dissolved Solids		1380	1290	1320	1580	1110
pH		7.1	7.1	7.5	7.3	7.2
Chloride	16887-00-6	144	403	195	74.0	106.0
Sulfate	14808-79-8	313	61.1	303	508	243
Nitrogen, Nitrate		0.7	<0.10	<0.10	<0.10	23.3
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		0.72	<0.10	<0.10	<0.10	23.4
Total Organic Carbon	7440-44-0	9.6	12.5	7.9	4.5	1.0
Carbon Dioxide	124-38-9	878	617	615	645	440
<b>Field</b>						
Dissolved Iron		0.6	0.5	0.6	-	0.6
Dissolved Manganese		1.1	1.2	0	-	1.2
DO		1760	1.89	0.77	-	0.07
pH		6.99	7.01	6.9	-	6.88
ORP		-132.7	-143.3	-95.2	-	4.2
Temperature		24.31	26.55	21.56	-	17.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-36A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date &		Sample Date &		Sample Date &	
			Result	Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	<1.0	<1.0	7/13
1,2-Dichloroethane	107-06-2	5	1.3	<1.0	<1.0	<1.0	<1.0	
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	<10.0	<10.0	
Benzene	71-43-2	5	27.4	47.9	61	29.3	15	
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	<5.0	<5.0	
Chlorobenzene	108-90-7	100	19.1	200	343	273	126	
Chloroform	67-66-3	80	<1.0	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	156-59-2	70	4.7	<1.0	<1.0	<1.0	<1.0	
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	<1.0	<1.0	
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	<10.0	<10.0	
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	127-18-4	5	7.3	<1.0	<1.0	<1.0	<1.0	
Toluene	108-88-3	100	<1.0	<1.0	<1.0	<1.0	<1.0	
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	<1.0	<1.0	
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	<1.0	<1.0	
Vinyl chloride	75-01-4	2	<1.0	<1.0	2.8	<1.0		
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	<3.0	

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-36A  
Former FF Building Area

Constituent	CAS	Sample Date & Result			
<b>Lab</b>		4/3/2012	7/5/2012	10/1/2012	2/11/2013
Ethane	74-84-0	<0.0124	<0.0062	<0.0062	0.0116
Ethene	74-85-1	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	<0.0066	0.68	0.765	1.24
Iron	7439-89-6	0.432	16.8	22.7	27.8
Manganese	7439-96-5	6.72	6.13	7.43	4.93
Alkalinity		446	460	444	413
Total Dissolved Solids		1700	1680	1630	1180
pH		7	7.1	6.8	7.2
Chloride	16887-00-6	605	569	484	344
Sulfate	14808-79-8	144	187	151	146
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	6.7	5.4	7.1	3.0
Carbon Dioxide	124-38-9	482	478	531	363
<b>Field</b>					
Dissolved Iron		0	1	-	0
Dissolved Manganese		0	0.3	-	0
DO		0.16	1.81	1.34	0.87
pH		6.78	6.86	6.80	6.71
ORP		45.4	-129.3	-112.4	-89.7
Temperature		21.2	26.78	19.94	18.53

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-36B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result		Sample Date & Result		Sample Date & Result	
			4/3/2012	7/5/2012	10/1/2012	10/1/2012	2/11/2013	
1,1,1-Trichloroethane	71-55-6	200	13.0	<50	9.5	9.4	1.9	
1,2-Dichloroethane	107-06-2	5	<1.0	212	118	161	48.1	
Acetone	67-64-1	12000	<10.0	<500	<50	<50	<10	
Benzene	71-43-2	5	317	296	258	285	3.1	
Carbon disulfide	75-15-0	720	<5.0	<250	<25	<25	<5.0	192
Chlorobenzene	108-90-7	100	3050	2980	3210	3550	62.7	3840
Chloroform	67-66-3	80	<1.0	<50	<5	<5	7.6	
cis-1,2-Dichloroethene	156-59-2	70	54.6	77.7	99.5	107	13.7	70.4
Ethylbenzene	100-41-4	700	2.2	<50	<5	<5	<1.0	
Iodomethane	74-88-4	No RSL	<10.0	<500	<50	<50	<10	
Methylene chloride	75-09-2	5	<1.0	<50	<5	<5	<1.0	
Tetrachloroethene	127-18-4	5	4.8	<50	<5	<5	4.6	5.6
Toluene	108-88-3	100	4.0	<50	<5	6.4	<1.0	
trans-1,2-Dichloroethene	156-60-5	100	1.5	<50	<5	<5	<1.0	
Trichloroethene	79-01-6	5	5.8	<50	20.1	23.7	9.3	44
Vinyl chloride	75-01-4	2	477	609	876	878	34.1	243
Xylene (Total)	1330-20-7	10000	<3.0	<150	<15	<15	<3.0	

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

23-53

MW-36B  
Former FF Building Area

Constituent	CAS	Sample Date & Result				
<b>Lab</b>		4/3/2012	7/5/2012	10/1/2012	10/1/2012	2/11/2013
Ethane	74-84-0	0.0398	0.0477	0.0773	0.0696	<0.0062
Ethene	74-85-1	0.2	0.243	0.353	0.324	<0.0062
Methane	74-82-8	2.26	2.82	4.91	4.28	0.0533
Iron	7439-89-6	13.2	13.7	14.0	14.1	0.737
Manganese	7439-96-5	3.78	3.58	3.24	3.25	1.16
Alkalinity		542	509	499	496	258
Total Dissolved Solids		1420	1500	1500	1490	718
pH		6.9	7.0	6.8	6.8	7.6
Chloride	16887-00-6	410	448	403	397	164
Sulfate	14808-79-8	166	194	193	192	122
Nitrogen, Nitrate		<0.10	0.15	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	0.38
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	0.15	<0.10	<0.10	0.38
Total Organic Carbon	7440-44-0	10.1	12.9	28.6	14.4	6.6
Carbon Dioxide	124-38-9	613	550	597	593	227
<b>Field</b>						
Dissolved Iron		0	0.8	-	-	0
Dissolved Manganese		1.7	0	-	-	1.1
DO		2.61	1.54	0.33	0.33	0.32
pH		6.83	6.78	6.76	6.76	6.81
ORP		-59.8	-119.7	-106.4	-106.4	-111.4
Temperature		19.26	23.97	18.33	18.33	17.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-38A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result				
			4/3/2012	4/3/2012	7/5/2012	10/2/2012	2/13/2013
1,1,1-Trichloroethane	71-55-6	200	<200	<200	<2000	<500	<100
1,2-Dichloroethane	107-06-2	5	<200	<200	<2000	<500	<100
Acetone	67-64-1	12000	<2000	<2000	<20000	<5000	<1000
Benzene	71-43-2	5	<200	<200	<2000	<500	<100
Carbon disulfide	75-15-0	720	<1000	<1000	<10000	<10000	<500
Chlorobenzene	108-90-7	100	1430	1290	3740	1250	532
Chloroform	67-66-3	80	<200	<200	<2000	<500	<100
cis-1,2-Dichloroethene	156-59-2	70	202000	216000	208000	151000	50100
Ethylbenzene	100-41-4	700	524	427	<2000	532	115
Iodomethane	74-88-4	No RSL	<2000	<2000	<20000	<5000	<1000
Methylene chloride	75-09-2	5	<200	<200	<2000	<500	<100
Tetrachloroethene	127-18-4	5	8950	7620	<2000	<500	1980
Toluene	108-88-3	100	469	339	<2000	<500	110
trans-1,2-Dichloroethene	156-60-5	100	262	223	<2000	<500	<100
Trichloroethene	79-01-6	5	1960	1690	<2000	<500	1510
Vinyl chloride	75-01-4	2	18100	16200	22300	24900	3870
Xylene (Total)	1330-20-7	10000	1700	1470	<6000	1770	<300

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-38A  
Former FF Building Area

Constituent	CAS	Sample Date & Result				
<b>Lab</b>		4/3/2012	4/3/2012	7/5/2012	10/2/2012	2/13/2013
Ethane	74-84-0	<0.0124	0.0162	0.0448	0.067	0.0201
Ethene	74-85-1	1.24	3.15	5.2	3.47	0.239
Methane	74-82-8	0.103	0.343	0.855	0.943	0.114
Iron	7439-89-6	6.73	8.03	57.3	51.9	274
Manganese	7439-96-5	6.3	6.37	5.87	6.16	6.06
Alkalinity		356	346	393	362	288
Total Dissolved Solids		1630	1560	1430	1600	2080
pH		6.6	6.6	6.8	6.9	6.6
Chloride	16887-00-6	582	610	476	490	944
Sulfate	14808-79-8	41.8	38.9	22.1	36.9	72.6
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	0.13
Nitrogen, Nitrite		<0.10	<0.10	0.12	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	0.12	<0.10	0.17
Total Organic Carbon	7440-44-0	44.7	43.6	30.3	21.6	11.4
Carbon Dioxide	124-38-9	492	478	471	409	399
<b>Field</b>						
Dissolved Iron		-	0	0	-	0
Dissolved Manganese		-	1.6	-	-	1.1
DO		-	0.12	1.57	0.08	0.04
pH		-	6.56	6.65	6.58	6.51
ORP		-	-5.6	-156.5	-32.3	-22.3
Temperature		-	20.63	23.8	22.50	20.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-38B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date &				
			Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<100	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<100	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	<1000	<10.0	<10.0	<10.0
Benzene	71-43-2	5	68.7	<100	1.1	<1.0	<1.0
Carbon disulfide	75-15-0	720	<5.0	<100	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	13500	12500	192	58.7	58.6
Chloroform	67-66-3	80	<1.0	<100	8.6	9.0	9.1
cis-1,2-Dichloroethene	156-59-2	70	2.8	<100	17.8	15.0	14.4
Ethylbenzene	100-41-4	700	11.1	<100	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<1000	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<100	<1.0	1.6	1.7
Tetrachloroethene	127-18-4	5	4.3	<100	14.2	12.9	13.4
Toluene	108-88-3	100	<1.0	<100	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<100	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<100	1.2	1.3	1.3
Vinyl chloride	75-01-4	2	14.2	<100	36.4	12.7	12.4
Xylene (Total)	1330-20-7	10000	<3.0	<300	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-38B  
Former FF Building Area

Contituent	CAS	Sample Date & Result				
<b>Lab</b>		4/3/2012	7/5/2012	10/1/2012	2/13/2013	2/13/2013
Ethane	74-84-0	<0.0124	0.009	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.0124	0.0313	0.0213	0.0128	0.0136
Methane	74-82-8	0.225	0.286	0.0635	0.029	0.0189
Iron	7439-89-6	18.9	17.1	0.636	0.518	0.496
Manganese	7439-96-5	0.476	0.45	0.664	0.722	0.716
Alkalinity		416	395	219	219	216
Total Dissolved Solids		1370	1440	835	751	765
pH		6.8	7.1	7.4	7.4	7.5
Chloride	16887-00-6	409	457	235	190	200
Sulfate	14808-79-8	213	237	127	130	129
Nitrogen, Nitrate		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen, Nitrite		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.010	<0.010	<0.010	<0.010	<0.010
Total Organic Carbon	7440-44-0	6.8	7.6	6.0	1.1	1.9
Carbon Dioxide	124-38-9	498	411	211	193	190
<b>Field</b>						
Dissolved Iron		0	10	-	0	0
Dissolved Manganese		0	0	-	0	0
DO		0.74	1.7	0.22	0.2	0.2
pH		6.97	6.93	7.32	7.27	7.27
ORP		-82.8	-141.1	-145.1	-165.2	-165.2
Temperature		19.77	27.04	20.10	17.63	17.63

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-39A  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date &					
			Result	Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	6.1	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	2.1	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	1.5	1.5	1.5
Vinyl chloride	75-01-4	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-39A  
Former FF Building Area

Constituent	CAS	Sample Date & Result						
<b>Lab</b>		9/2/2011	12/21/2011	4/3/2012	6/27/2012	6/27/2012	9/26/2012	9/26/2012
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Methane	74-82-8	0.0126	<0.010	<0.0066	<0.0066	<0.0066	0.0101	0.007
Iron	7439-89-6	7.05	0.122	0.557	0.0673	0.098	0.123	0.135
Manganese	7439-96-5	0.643	0.502	0.474	0.361	0.371	0.308	0.312
Alkalinity		528	564	558	545	543	528	514
Total Dissolved Solids		2740	2.66	2350	2240	2260	3880	1890
pH		7.1	7.4	7.2	7.5	7.6	7.4	7.4
Chloride	16887-00-6	1030	1120	1120	853	872	678	685
Sulfate	14808-79-8	140	143	137	138	146	127	130
Nitrogen, Nitrate		0.36	0.39	0.42	0.32	0.39	0.19	0.20
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		0.38	0.4	0.42	0.33	0.42	0.23	0.23
Total Organic Carbon	7440-44-0	5.2	<0.50	4.8	5	4.3	4.7	4.3
Carbon Dioxide	124-38-9	522	541	592	514	505	507	514
<b>Field</b>								
Dissolved Iron		0	0	0	0	-	-	-
Dissolved Manganese		0	0	0	0	-	-	-
DO		700	0.62	0.08	0.063	-	0.44	0.44
pH		7.03	6.9	6.99	7.05	-	7.01	7.01
ORP		80.3	279.9	82.6	10.3	-	27.7	27.7
Temperature		22.14	17.46	25.09	21.56	-	20.07	20.07

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-39B  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result							
			9/2/2011	12/21/2011	12/21/2011	4/3/2012	6/27/2012	6/27/2012	9/26/2012	9/26/2012
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	8.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-39B  
Former FF Building Area

Contingent	CAS	Sample Date & Result							
<b>Lab</b>		9/2/2011	12/21/2011	12/21/2011	4/3/2012	6/27/2012	6/27/2012	9/26/2012	9/26/2012
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Methane	74-82-8	<0.010	<0.010	<0.010	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
Iron	7439-89-6	110	0.108	0.108	541	0.233	0.133	1.68	0.137
Manganese	7439-96-5	1.23	<0.005	<0.005	7.9	<0.005	<0.005	0.0256	<0.005
Alkalinity		597	615	625	562	557	559	620	609
Total Dissolved Solids		1790	1380	1380	1390	1500	1530	1690	1650
pH		7.1	7.5	7.3	7.1	7.9	7.5	7.2	7.1
Chloride	16887-00-6	553	330	327	376	448	464	437	441
Sulfate	14808-79-8	162	113	111	113	136	132	143	142
Nitrogen, Nitrate		0.55	1.4	1.4	1.6	1.4	1.3	1.3	1.3
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		0.57	1.4	1.4	1.6	1.4	1.4	1.3	1.3
Total Organic Carbon	7440-44-0	4	0.79	0.73	5.8	5.9	5.9	8.3	6.6
Carbon Dioxide	124-38-9	557	580	613	584	504	527	624	633
<b>Field</b>									
Dissolved Iron		0.3	0.2	-	-	0.2	0	-	-
Dissolved Manganese		0	0	-	-	0	0	-	-
DO		2920	1.75	-	-	3.13	1.13	1.73	1.73
pH		6.97	7.06	-	-	7.06	6.98	6.84	6.84
ORP		91.7	268.4	-	-	94.5	38.1	91.2	91.2
Temperature		19.71	2.81	-	-	20.7	22.22	22.55	22.55

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

LPZ-2  
Former FF Building Area

Constituent	CAS	MCL*	Sample										
			Date & Result										
			6/27/2000	4/29/2004	8/25/2004	1/13/2005	3/3/2005	9/2/2011	12/20/2011	4/3/2012	6/28/2012	9/26/2012	2/7/2013
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1000	dry	<1000	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1000	dry	<1000	<10.0	<10.0	<10.0
Acetone	67-64-1	12000	-	-	-	-	-	<10000	dry	<10000	<1.0	19.3	25.2
Benzene	71-43-2	5	-	14	-	-	-	<1000	dry	<1000	5.4	7.2	16.8
Carbon disulfide	75-15-0	720	-	-	-	-	-	<5000	dry	<5000	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	-	14	-	-	37	<1000	dry	1920	7.8	7.7	19.9
Chloroform	67-66-3	80	-	-	-	-	-	<1000	dry	<1000	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	820	100	-	170	110	190000	dry	68400	<1.0	<1.0	116
Ethylbenzene	100-41-4	700	-	-	-	-	-	<1000	dry	<1000	<1.0	<1.0	2.2
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10000	dry	<10000	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	1500	-	-	-	-	1210	dry	<1000	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<1000	dry	5670	<1.0	<1.0	<1.0
Toluene	108-88-3	100	70000	48000	3800	-	4600	190000	dry	4750	99.2	101	4130
trans-1,2-Dichloroethene	156-60-5	100	-	6	-	-	-	<1000	dry	<1000	<1.0	<1.0	4.8
Trichloroethene	79-01-6	5	-	5.1	-	-	-	<1000	dry	<1000	<1.0	<1.0	3.6
Vinyl chloride	75-01-4	2	460	60	-	140	110	1500	dry	3700	<1.0	3	45.1
Xylene (Total)	1330-20-7	10000	-	10	-	-	-	<3000	dry	<3000	3.1	3.1	5.4

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

LPZ-2  
Former FF Building Area

Constituent	CAS	Sample Date & Result									
<b>Lab</b>		4/29/2004	8/25/2004	1/13/2005	3/3/2005	9/2/2011	12/20/2011	4/3/2012	6/28/2012	9/26/2012	2/7/2013
Ethane	74-84-0	0.025	0.036	0.035	0.057	0.0862	-	0.0318	0.0504	<0.0062	0.0553
Ethene	74-85-1	0.0087	0.0033	0.024	0.048	0.246	-	0.0163	<0.0062	<0.0062	<0.0062
Methane	74-82-8	8.6	4.9	5.2	17	13.7	-	5.82	8.13	1.89	10.8
Iron	7439-89-6	3.5	-	-	-	19.6	-	5.04	2.24	4.66	27.2
Manganese	7439-96-5	-	-	-	-	3.6	-	1.73	1.54	1.16	3.03
Alkalinity		1100	1300	930	980	1390	-	712	730	626	953
Total Dissolved Solids		-	-	-	-	2580	-	853	921	815	1210
pH		-	-	-	-	8.1	-	7.2	7.7	7.2	7.2
Chloride	16887-00-6	84	89	66	63	367	-	38.2	45.4	30.5	39.5
Sulfate	14808-79-8	-	-	-	-	20.8	-	3.3	6.2	1.3	2.2
Nitrogen, Nitrate		-	-	-	-	<0.10	-	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	-	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	-	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	74	75	120	120	28.8	-	56.5	30.5	32.9	109
Carbon Dioxide	124-38-9	140	130	96	69	1250	-	716	671	629	959
<b>Field</b>											
Dissolved Iron		-	-	-	-	-	-	1.5	0.1	-	-
Dissolved Manganese		-	-	-	-	-	-	0	0	-	-
DO		-	-	-	-	200	-	0.04	0.75	0.48	0.1
pH		-	-	-	-	7.01	-	7.1	7.02	6.73	6.43
ORP		-	-	-	-	-136.5	-	-132.4	-136.5	-131.6	-152.6
Temperature		-	-	-	-	20.83	-	21.31	20.67	18.63	17.63

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

LPZ-4  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result					
			8/1/2000	9/2/2011	12/12/2011	4/12/2012	6/28/2012	9/26/2012
1,1,1-Trichloroethane	71-55-6	200	-	dry	<100	<100	<1000	<50
1,2-Dichloroethane	107-06-2	5	-	dry	<100	<100	<1000	<50
Acetone	67-64-1	12000	-	dry	<1000	<1000	<10000	<500
Benzene	71-43-2	5	770	dry	<100	<100	<1000	<50
Carbon disulfide	75-15-0	720	-	dry	<500	<500	<5000	<250
Chlorobenzene	108-90-7	100	2300	dry	<100	<100	<1000	511
Chloroform	67-66-3	80	-	dry	138	<100	<1000	<50
cis-1,2-Dichloroethene	156-59-2	70	4100	dry	<100	106	25600	1690
Ethylbenzene	100-41-4	700	-	dry	<100	<100	<1000	<50
Iodomethane	74-88-4	No RSL	-	dry	<1000	<1000	<10000	<500
Methylene chloride	75-09-2	5	-	dry	<100	<100	<1000	<50
Tetrachloroethene	127-18-4	5	3800	dry	<100	229	<1000	278
Toluene	108-88-3	100	-	dry	3630	134000	123000	37900
trans-1,2-Dichloroethene	156-60-5	100	-	dry	<100	<100	<1000	<50
Trichloroethene	79-01-6	5	3100	dry	<100	295	<1000	202
Vinyl chloride	75-01-4	2	-	dry	<100	<100	<1000	372
Xylene (Total)	1330-20-7	10000	-	dry	<300	<300	<3000	<150

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

4-19

LPZ-4  
Former FF Building Area

Contingent	CAS	Sample Date & Result					
<b>Lab</b>		9/2/2011	12/21/2011	4/11/2012	6/28/2012	9/26/2012	2/7/2013
Ethane	74-84-0	-	0.076	0.0304	0.007	<0.0062	0.0065
Ethene	74-85-1	-	0.0171	0.0246	0.0068	0.169	0.106
Methane	74-82-8	-	20	4.08	1.02	1.13	2.12
Iron	7439-89-6	-	7.57	2.72	2.45	11.4	16.0
Manganese	7439-96-5	-	2.12	0.0682	0.0612	0.200	0.263
Alkalinity		-	785	1550	1600	1180	4120
Total Dissolved Solids		-	605	2310	1890	1460	4530
pH		-	7.3	11.7	11.6	9.2	10.5
Chloride	16887-00-6	-	38.7	32.6	33.8	107	10
Sulfate	14808-79-8	-	3.1	131	91.7	93.6	253
Nitrogen, Nitrate		-	<0.010	0.22	<0.10	<0.10	0.61
Nitrogen, Nitrite		-	<0.010	0.46	0.42	<0.10	0.45
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	<0.010	0.68	0.46	<0.10	1.1
Total Organic Carbon	7440-44-0	-	52.1	94.3	83.3	77.8	18.8
Carbon Dioxide	124-38-9	-	769	682	518	824	2020
<b>Field</b>							
Dissolved Iron		-	-	-	0	-	0.5
Dissolved Manganese		-	-	-	0	-	0
DO		-	1890	0.04	3.71	0.07	0.14
pH		-	10.11	11.73	11.34	9.28	8.76
ORP		-	-10.4	-2.1	-259.4	-106.9	-132.3
Temperature		-	14.83	18.4	26.62	20.43	19.32

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

LPZ-5  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result											
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	<1000	<200	<200	<2000	<5	<25	7/13	
1,2-Dichloroethane	107-06-2	5	-	-	-	-	<1000	<200	<200	<2000	<5	<25		
Acetone	67-64-1	12000	-	-	-	-	<10000	<2000	<2000	<20000	<50	<250		
Benzene	71-43-2	5	300	1400	-	-	<1000	<200	<200	<2000	<5	<25		
Carbon disulfide	75-15-0	720	-	-	-	-	<5000	<1000	<1000	<1000	<25	<125		
Chlorobenzene	108-90-7	100	15000	8200	8300	7900	9100	<1000	<200	910	<2000	15	30.2	2000
Chloroform	67-66-3	80	-	-	-	-	1000	<200	<200	<2000	<5	<25		
cis-1,2-Dichloroethene	156-59-2	70	750	3500	-	-	-	12000	4500	5280	7850	113	4780	
Ethylbenzene	100-41-4	700	-	85	-	-	<1000	<200	<200	<2000	<5	<25		
Iodomethane	74-88-4	No RSL	-	-	-	-	<10000	<2000	<2000	<20000	<50	<250		
Methylene chloride	75-09-2	5	-	-	-	-	2040	<200	<200	<2000	<5	<25		
Tetrachloroethene	127-18-4	5	-	17	-	-	<1000	<200	5670	<2000	<5	<25		
Toluene	108-88-3	100	170000	140000	68000	65000	57000	157000	81400	83700	97300	3000	185000	117,000
trans-1,2-Dichloroethene	156-60-5	100	-	48	-	-	-	<1000	<200	<200	<2000	<5	37.2	
Trichloroethene	79-01-6	5	-	160	-	-	-	<1000	323	307	<2000	6.3	1010	
Vinyl chloride	75-01-4	2	840	1500	-	-	-	<1000	684	711	<2000	11.6	571	445
Xylene (Total)	1330-20-7	10000	-	130	-	-	-	<3000	<600	<600	<6000	<15	<75	

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"--" indicates no data

8-18

LPZ-5  
Former FF Building Area

Constituent	CAS	Sample Date & Result									
<b>Lab</b>		4/29/2004	8/25/2004	1/13/2005	3/3/2005	9/6/2011	12/20/2011	4/3/2012	6/28/2012	9/26/2012	2/7/2013
Ethane	74-84-0	0.16	-	0.18	0.14	0.066	0.0325	0.0688	0.0626	<0.0062	0.0531
Ethene	74-85-1	0.008	-	0.0093	0.0087	0.209	0.0702	0.139	0.115	<0.0062	0.12
Methane	74-82-8	12	0.016	14	14	11.1	4.6	11.3	11.5	0.022	6.02
Iron	7439-89-6	1.4	-	-	-	2.02	7.44	1.31	2.25	0.713	85.0
Manganese	7439-96-5	-	-	-	-	1.58	0.193	0.474	0.344	0.505	2.63
Alkalinity		1400	1500	1500	1300	1450	905	1.06	1200	248	1140
Total Dissolved Solids		-	-	-	-	2670	351	1.61	156	349	1480
pH		-	-	-	-	9.2	8.7	8.7	8.4	7.5	8.9
Chloride	16887-00-6	170	180	190	170	312	101	115	108	21.2	74.1
Sulfate	14808-79-8	-	-	140	-	18.4	19.7	35.5	17.7	23.1	73.1
Nitrogen, Nitrate		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	50	52	46	40	372	168	138	125	21.9	91.5
Carbon Dioxide	124-38-9	73	54	86	85	1210	800	910	1050	234	936
<b>Field</b>											
Dissolved Iron		-	-	-	-	0.9	0.6	0.6	0.1	-	0.5
Dissolved Manganese		-	-	-	-	0	0	0	0	-	0.1
DO		-	-	-	-	2.97	4810	2.23	0.33	0.11	0.1
pH		-	-	-	-	8.05	7.89	8.56	8.42	7.3	7.13
ORP		-	-	-	-	-207.6	-146.1	-68	-109.2	-45.6	-53.6
Temperature		-	-	-	-	21.02	18.71	20.92	31.75	25.78	19.59

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

REC-1  
Former FF Building Area

Constituent	CAS	MCL*	Sample												
			Date & Result												
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1.0	<50	<5.0	<500	<500	<100	<1	
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1.0	<50	<5.0	<500	<500	<100	<1	
Acetone	67-64-1	12000	-	-	-	-	-	<10.0	<500	65.9	<5000	<5000	<1000	<10	
Benzene	71-43-2	5	-	-	-	-	-	<1.0	<50	<5.0	<500	<500	<100	<1	
Carbon disulfide	75-15-0	720	-	-	-	-	-	<5.0	<250	<25.0	<2500	<2500	<500	<5	
Chlorobenzene	108-90-7	100	16000	140	130	210	19	-	13.1	156	6.1	6680	10600	4170	13
Chloroform	67-66-3	80	-	-	-	-	-	<1.0	<50	<5.0	<500	<500	<100	<1	
cis-1,2-Dichloroethene	156-59-2	70	1300	130	120	32	4	-	186	539	207	157000	155000	181000	179
Ethylbenzene	100-41-4	700	-	85	-	-	-	<1.0	<200	<5.0	<500	<500	<100	<1	
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10.0	<500	<50.0	<5000	<5000	<1000	<10	
Methylene chloride	75-09-2	5	980	-	-	-	-	-	<1.0	<50	<5.0	<500	<100	<1	
Tetrachloroethene	127-18-4	5	57000	2400	2600	4300	280	6400	2770	3940	16.7	<500	<500	984	102
Toluene	108-88-3	100	-	-	-	-	3.0	-	<1.0	<50	5.9	<500	<500	<100	<1
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	-	<1.0	<50	<5.0	<500	<500	<100	1.1
Trichloroethene	79-01-6	5	1000	220	220	100	22	140	329	310	<5.0	<500	<500	370	76.6
Vinyl chloride	75-01-4	2	-	-	-	-	-	-	8.9	<50	<5.0	2200	3120	15100	40.1
Xylene (Total)	1330-20-7	10000	-	-	-	-	-	-	<3.0	<150	<15.0	<1500	<1500	<300	<3

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"--" indicates no data

REC-1  
Former FF Building Area

Constituent	CAS	Sample Date & Result												
<b>Lab</b>		4/30/2004	4/30/2004	8/25/2004	1/13/2005	3/3/2005	9/23/2011	12/20/2011	4/12/2012	6/28/2012	6/28/2012	9/26/2012	2/7/2013	
Ethane	74-84-0	-	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062	
Ethene	74-85-1	-	-	-	-	-	<0.010	<0.010	<0.0124	0.254	0.22	0.629	<0.0062	
Methane	74-82-8	0.00028	0.00028	0.0011	0.0014	0.0011	<0.010	<0.010	1.28	9.14	7.12	3.35	1.0	
Iron	7439-89-6	-	-	-	-	-	-	1.19	9.97	29.1	28.6	17.9	13.6	
Manganese	7439-96-5	-	-	-	-	-	-	18	2.27	4.6	4.56	3.08	2.7	
Alkalinity		410	420	620	50	230	440	600	388	256	258	420	372	
Total Dissolved Solids		-	-	-	-	-	421	392	654	899	923	801	664	
pH		-	-	-	-	-	7.4	7.8	6.7	7	6.8	6.8	6.8	
Chloride	16887-00-6	110	110	97	3.5	120	15.3	28.2	17.2	207	210	142	20.7	
Sulfate	14808-79-8	65	65	290	5.6	130	73.3	90.3	40.7	1.1	1.6	2.8	163	
Nitrogen, Nitrate		1.1	1	0.45	0.21	0.62	<0.10	<0.10	<0.10	0.13	0.13	<0.10	<0.10	
Nitrogen, Nitrite		-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	-	0.1	<0.10	<0.10	0.17	0.17	<0.10	<0.10	
Total Organic Carbon	7440-44-0	1.5	1.4	2.9	0.6	3.1	3.4	1600	140	112	111	34.3	7.3	
Carbon Dioxide	124-38-9	24	25	80	3.6	8.2	422	547	496	277	30.4	503	445	
<b>Field</b>														
Dissolved Iron		-	-	-	-	-	0	0	-	4	10	-	0	
Dissolved Manganese		-	-	-	-	-	0	0	-	0	1.2	-	0	
DO		-	-	-	-	-	150	150	-	0.01	0.94	0.35	0.37	
pH		-	-	-	-	-	6.71	6.53	-	6.73	6.09	6.32	6.48	
ORP		-	-	-	-	-	-101	-110.3	-	-98.6	-74.7	-175.8	-163.5	
Temperature		-	-	-	-	-	18.86	19.25	-	18.74	30.5	25.97	23.61	

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

REC-4  
Former FF Building Area

Constituent	CAS	MCL*	Sample												
			Date & Result												
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	-	<1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	-	<1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	-	-	-	<10000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	-	-	-	-	-	-	<1000	<1.0	<1.0	<1.0	<1.0	<1.0	9.2
Carbon disulfide	75-15-0	720	-	-	-	-	-	-	<5000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	200	520	560	760	620	550	560	<1000	<1.0	10.2	11.1	<1.0	1060
Chloroform	67-66-3	80	-	-	-	-	-	-	1030	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	260	1100	1100	1800	1600	1700	1700	1960	4.8	403	406	26.4	20800
Ethylbenzene	100-41-4	700	-	85	-	-	-	-	<1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	-	-	-	<10000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	-	-	-	3400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	940	2200	5800	2600	2000	2700	2700	2640	7.6	670	722	22	22
Toluene	108-88-3	100	-	-	-	-	3.0	-	-	<1000	<1.0	2.3	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	-	<1000	<1.0	6.1	6.0	6.0	6.0	282.0
Trichloroethene	79-01-6	5	1100	4000	4800	6600	5100	5800	5600	4040	310	344	363	30.2	26500
Vinyl chloride	75-01-4	2	26	-	-	-	-	-	<1000	<1.0	1.5	1.6	<1.0	<1.0	139J
Xylene (Total)	1330-20-7	10000	-	-	-	-	-	-	<3000	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

J flag indicates detected at a concentration below reporting limit

REC-4  
Former FF Building Area

Contingent	CAS	Sample Date & Result											
<b>Lab</b>		4/30/2004	8/24/2004	1/13/2005	1/13/2005	3/2/2005	3/2/2005	9/6/2011	12/20/2011	4/12/2012	4/12/2012	6/28/2012	9/26/2012
Ethane	74-84-0	0.00078	-	0.00042	0.00041	0.0052	0.0004	<0.010	<0.010	<0.0124	<0.0124	<0.0062	0.248
Ethene	74-85-1	0.00081	-	0.00046	0.00048	0.0044	0.0034	0.0108	<0.010	<0.0124	<0.0124	<0.0062	0.157
Methane	74-82-8	0.1	0.11	0.053	0.058	0.27	0.21	0.289	<0.010	<0.0066	<0.0066	<0.0066	0.352
Iron	7439-89-6	-	-	-	-	-	-	8.94	<0.050	0.181	0.185	<0.05	39.7
Manganese	7439-96-5	-	-	-	-	-	-	2.35	<0.005	0.0076	0.008	<0.005	2.71
Alkalinity		450	450	460	460	430	430	475	52	230	230	133	426
Total Dissolved Solids		-	-	-	-	-	-	1410	192	780	797	371	1540
pH		-	-	-	-	-	-	7	8.7	7.8	7.8	8.7	7.0
Chloride	16887-00-6	470	550	660	660	680	680	415	169	236	256	121	377
Sulfate	14808-79-8	320	73	290	290	280	280	230	90.3	78.7	78.4	53.8	279
Nitrogen, Nitrate		-	-	0.035	-	-	-	<0.10	0.56	0.62	0.65	0.21	<0.10
Nitrogen, Nitrite		-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	-	-	<0.10	0.57	0.62	0.65	0.22	<0.10
Total Organic Carbon	7440-44-0	2.6	4.7	3.5	3.6	4	4.2	3.5	0.55	1.5	1.2	1.5	6.3
Carbon Dioxide	124-38-9	180	150	100	72	98	98	513	46	210	210	107	460
<b>Field</b>													
Dissolved Iron		-	-	-	-	-	-	0	0	-	0	0	-
Dissolved Manganese		-	-	-	-	-	-	0	0	-	0	0	-
DO		-	-	-	-	-	-	2.67	3860	-	0.04	1.4	0.23
pH		-	-	-	-	-	-	6.35	6.28	-	8.04	8.86	6.97
ORP		-	-	-	-	-	-	-53.2	-43.6	-	148.5	-252.2	-181.6
Temperature		-	-	-	-	-	-	21.46	19.83	-	19.05	25.85	23.31

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

OBW-1  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result						
			6/7/2000	9/6/2011	12/20/2011	4/11/2012	6/28/2012	9/25/2012	2/6/2013
1,1,1-Trichloroethane	71-55-6	200	-	<1000	<1000	<1000	<1000	<500	<25
1,2-Dichloroethane	107-06-2	5	-	<1000	<1000	<1000	<5000	<500	<25
Acetone	67-64-1	12000	-	<10000	<10000	<10000	<50000	<5000	<250
Benzene	71-43-2	5	-	<1000	<1000	<1000	<5000	<500	<25
Carbon disulfide	75-15-0	720	-	<5000	<5000	<5000	<25000	<2500	<125
Chlorobenzene	108-90-7	100	4400	4550	4070	10700	8540	2630	1740
Chloroform	67-66-3	80	-	<1000	<1000	<1000	<5000	<500	<25
cis-1,2-Dichloroethene	156-59-2	70	2500	5760	6530	5770	87500	125000	908
Ethylbenzene	100-41-4	700	-	<1000	<1000	<1000	<5000	<500	<25
Iodomethane	74-88-4	No RSL	-	<10000	<10000	<10000	<50000	<5000	<250
Methylene chloride	75-09-2	5	-	2410	<1000	<1000	<5000	<500	<25
Tetrachloroethene	127-18-4	5	92000	60500	59100	258000	155000	19700	80.3
Toluene	108-88-3	100	190	2150	<1000	<1000	<5000	<500	47.9
trans-1,2-Dichloroethene	156-60-5	100	-	<1000	<1000	<1000	<5000	<500	<25
Trichloroethene	79-01-6	5	1500	3570	4510	6710	<5000	38400	507
Vinyl chloride	75-01-4	2	140	<1000	<1000	<1000	<5000	962	24000
Xylene (Total)	1330-20-7	10000	-	<3000	<3000	<3000	<15000	<1500	<75

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

67-77

OBW-1  
Former FF Building Area

Constituent	CAS	Sample Date & Result					
<b>Lab</b>		9/6/2011	12/20/2011	4/11/2012	6/28/2012	9/25/2012	2/6/2013
Ethane	74-84-0	0.0203	0.0361	0.0213	0.0125	0.0104	0.0104
Ethene	74-85-1	0.049	0.0821	0.0599	0.0324	0.048	0.0495
Methane	74-82-8	0.703	1.4	0.603	0.451	0.303	0.168
Iron	7439-89-6	<0.050	0.307	0.44	<0.5	3.09	0.116
Manganese	7439-96-5	<0.005	0.0089	0.0117	0.0157	2.34	0.0966
Alkalinity		74.1	150	114	370	707	711
Total Dissolved Solids		985	521	1700	1380	2780	2440
pH		11.7	9.3	9.2	7.6	7.1	6.9
Chloride	16887-00-6	384	361	333	389	676	481
Sulfate	14808-79-8	131	137	138	25	5.6	2.0
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	13.4	77.3	295	393	406	645
Carbon Dioxide	124-38-9	51.8	119	96.9	345	733	805
<b>Field</b>							
Dissolved Iron		0	0	0	0	-	0
Dissolved Manganese		0	0	0	0	-	0
DO		5.01	6390	0.02	0.003	0	0.00
pH		10.62	10.13	9.51	7.63	6.60	6.54
ORP		-19.7	-43.6	-89.5	-369.9	-288.4	-325.1
Temperature		21.76	20.71	18.54	24.0	25.5	23.63

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

OBW-2  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
Acetone	67-64-1	12000	-	<10.0	<10.0	<10.0	<2000	<2000	<2000	<2000
Benzene	71-43-2	5	67	<1.0	<1.0	<1.0	<200	<200	<200	<200
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	<5.0	<1000	<1000	<1000	<1000
Chlorobenzene	108-90-7	100	15000	<1.0	<1.0	<1.0	611	1000	1020	39000
Chloroform	67-66-3	80	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
cis-1,2-Dichloroethene	156-59-2	70	3700	<1.0	<1.0	<1.0	17700	32600	33700	45400
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	<10.0	<2000	<2000	<2000	<2000
Methylene chloride	75-09-2	5	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
Tetrachloroethene	127-18-4	5	120000	<1.0	<1.0	<1.0	7310	<200	<200	180000
Toluene	108-88-3	100	1400	<1.0	<1.0	<1.0	223	<200	<200	3920
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	<1.0	<200	<200	<200	<200
Trichloroethene	79-01-6	5	4100	<1.0	<1.0	<1.0	7780	929	959	7960
Vinyl chloride	75-01-4	2	45	<1.0	<1.0	<1.0	<200	<200	<200	<200
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	<3.0	<600	<600	<600	<600

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

7/13

54

1010

51,400

352

1290

347

110

85 - 95

OBW-2  
Former FF Building Area

Constituent	CAS	Sample Date & Result						
<b>Lab</b>		9/2/2011	12/20/2011	4/11/2012	6/28/2012	6/28/2012	9/26/2012	2/6/2013
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062	0.0109	<0.0062
Methane	74-82-8	0.0117	0.0113	0.0068	0.0127	0.0129	0.0249	<0.0066
Iron	7439-89-6	12.3	1.5	0.157	0.285	0.259	0.94	0.225
Manganese	7439-96-5	0.118	0.0368	0.0367	0.0349	0.0369	0.023	0.0372
Alkalinity		285	255	274	258	258	264	257
Total Dissolved Solids		457	409	418	430	442	489	485
pH		7.6	7.4	7.5	8.4	7.9	7.2	7.0
Chloride	16887-00-6	70.5	64.7	67.1	87.7	88.4	96	112
Sulfate	14808-79-8	18.1	19.6	16.3	14.9	15.3	32.1	15.6
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	3.8	-	2.9	3.6	3.5	5.2	1.7
Carbon Dioxide	124-38-9	261	245	258	229	234	265	278
<b>Field</b>								
Dissolved Iron		0	0	-	0	0	-	0
Dissolved Manganese		0	0	-	0	0	-	0
DO		200	200	-	0.02	0.79	1.03	0.65
pH		8.1	7.72	-	7.53	7.22	6.73	6.79
ORP		-77.2	-88.3	-	-66.3	-187	4.8	1.2
Temperature		15.84	13.61	-	16.93	24.05	22.97	21.58

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

OBW-3  
Former FF Building Area

Constituent	CAS	MCL*	Sample Date & Result							
			7/6/2000	9/2/2011	12/20/2011	4/11/2012	6/27/2012	9/26/2012	2/11/2013	2/11/2013
1,1,1-Trichloroethane	71-55-6	200	-	<10.0	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	<100	<10000	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	67	23	<200	2.4	2.4	2.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	<50	<1000	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	2900	1990	3180	940	2.6	106	<1.0	<1.0
Chloroform	67-66-3	80	-	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	21	21700	22800	2.2	2.2	2.1	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	<100	<2000	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	14000	13900	2.2	1.2	<1.0	1.3	1.3
Toluene	108-88-3	100	5.2	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	19.2	<200	<1.0	<1.0	1.4	<1.0	<1.0
Trichloroethene	79-01-6	5	39	8960	11000	<1.0	1.9	1.1	<1.0	1.0
Vinyl chloride	75-01-4	2	-	<10.0	<200	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	<30	<600	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

OBW-3  
Former FF Building Area

Contituent	CAS	Sample Date & Result							
<b>Lab</b>		8/31/2011	8/31/2011	12/20/2011	4/11/2012	6/27/2012	9/26/2012	2/11/2013	2/11/2013
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Methane	74-82-8	<0.010	<0.010	<0.010	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066
Iron	7439-89-6	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.178	0.175
Manganese	7439-96-5	<0.005	<0.005	<0.005	0.0089	<0.005	0.0096	0.0181	0.0187
Alkalinity		274	277	255	314	291	288	274	219
Total Dissolved Solids		287	292	486	680	709	695	686	675
pH		7.8	7.8	7.9	7.6	8.0	7.6	7.7	7.7
Chloride	16887-00-6	1.2	1.3	152	176	161	150	151	150
Sulfate	14808-79-8	18.8	19	97.2	104	104	99.5	102	104
Nitrogen, Nitrate		<0.10	<0.10	1.3	0.72	0.5	<0.10	0.17	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	1.3	0.72	0.52	<0.10	0.19	<0.10
Total Organic Carbon	7440-44-0	<1.0	<1.0	<0.50	2.6	2.6	2.2	0.91	0.9
Carbon Dioxide	124-38-9	245	250	231	292	262	268	241	202
<b>Field</b>									
Dissolved Iron		0	-	0	0	-	-	1.1	1.1
Dissolved Manganese		0	-	0	0	-	-	0.1	0.1
DO		-	-	470	0.04	1.18	0.31	0.35	0.35
pH		7.8	-	7.71	7.5	6.26	7.33	7.22	7.22
ORP		175.1	-	120.7	177	196.7	71.2	86.9	86.9
Temperature		15.6	-	16.32	13.52	21.02	19.22	18.62	18.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

**TABLE 3**  
**FORMER APA WELLS**  
**VOC AND NATURAL ATTENUATION PARAMETERS**

GM-1  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	6/20/2000	-	<1000	<1000	<1000	<500	<250	<100
1,2-Dichloroethane	107-06-2	5	-	-	<1000	<1000	<1000	<500	<250	<100
Acetone	67-64-1	12000	-	-	<10000	<10000	<10000	<5000	<250	<1000
Alachlor	15972-60-8	2	130000	92000	170000	191000	115000	88700	132000	98300
Benzene	71-43-2	5	-	-	<1000	<1000	<1000	<500	<250	<100
Carbon disulfide	75-15-0	720	-	-	<5000	<5000	<5000	<2500	<250	<500
Chlorobenzene	108-90-7	100	180000	120000	118000	98100	59100	106000	69000	81700
Chloroform	67-66-3	80	-	-	<1000	<1000	<1000	<500	<250	<100
cis-1,2-Dichloroethene	156-59-2	70	-	-	<1000	<1000	<1000	<500	<250	<100
Ethylbenzene	100-41-4	700	-	-	<1000	<1000	<1000	<500	<250	<100
Iodomethane	74-88-4	No RSL	-	-	<10000	<10000	<10000	<5000	<250	<1000
Methylene chloride	75-09-2	5	-	-	<1000	<1000	<1000	<500	<250	<100
Tetrachloroethene	127-18-4	5	-	-	<1000	<1000	<1000	<500	<250	<100
Toluene	108-88-3	100	-	-	<1000	<1000	<1000	<500	<250	<100
trans-1,2-Dichloroethene	156-60-5	100	-	-	<1000	<1000	<1000	<500	<250	<100
Trichloroethene	79-01-6	5	-	-	<1000	<1000	<1000	<500	<250	<100
Vinyl chloride	75-01-4	2	-	-	<1000	<1000	<1000	<500	<250	<100
Xylene (Total)	1330-20-7	10000	-	-	<3000	<3000	<3000	<1500	<750	<300

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

7/13

41,700

68,000

GM-1  
Former Acetanilides Production Area (APA)

Constituent	CAS	Sample Date & Result					
<b>Lab</b>		9/1/2011	12/19/2011	4/3/2012	6/26/2012	9/24/2012	2/4/2013
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	0.379	0.556	1.22	0.111	0.748	0.606
Iron	7439-89-6	32.7	3.84	0.501	0.34	5.73	20.4
Manganese	7439-96-5	23.8	1.09	2.81	4.26	5.95	6.34
Alkalinity		276	765	356	272	271	617
Total Dissolved Solids		446	1450	3170	548	537	537
pH		6.7	9.9	7.2	6.8	6.8	7.8
Chloride	16887-00-6	91.3	88.6	114	95.9	80.6	105
Sulfate	14808-79-8	16	104	78.7	60.1	58.7	100
Nitrogen, Nitrate		<0.10	0.31	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	0.36	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	156	208	212	162	169	182
Carbon Dioxide	124-38-9	318	286	358	325	324	563
<b>Field</b>							
Dissolved Iron		0.6	0.8	0.9	0.8	-	0.8
Dissolved Manganese		0	0	0	0	-	0
DO		610	1640	0.05	0.74	0.67	0.58
pH		7.07	8.11	7.91	6.71	7.06	7.23
ORP		82.1	189.2	158.7	109.5	98.3	99.9
Temperature		18.17	23.12	23.01	25.7	24.41	20.59

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

GM-2  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date & Result								
1,1,1-Trichloroethane	71-55-6	200	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
1,2-Dichloroethane	107-06-2	5	-	-	-	<1000	<1000	<1000	<500	inaccessible	28.6
Acetone	67-64-1	12000	-	-	-	<10000	<10000	<10000	<5000	inaccessible	186
Alachlor	15972-60-8	2	-	70000	-	120000	96400	77800	62900	inaccessible	140000
Benzene	71-43-2	5	-	-	-	<1000	<1000	<1000	<500	inaccessible	28
Carbon disulfide	75-15-0	720	-	-	-	<5000	<5000	<5000	<2500	inaccessible	<5
Chlorobenzene	108-90-7	100	70000	82000	94000	44600	46700	32000	69400	inaccessible	85000
Chloroform	67-66-3	80	-	-	-	<1000	<1000	<1000	<500	inaccessible	1.4
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Ethylbenzene	100-41-4	700	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Iodomethane	74-88-4	No RSL	-	-	-	<10000	<10000	<10000	<5000	inaccessible	<10
Methylene chloride	75-09-2	5	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Tetrachloroethene	127-18-4	5	-	-	-	<1000	<1000	<1000	<500	inaccessible	13.3
Toluene	108-88-3	100	-	-	-	<1000	<1000	<1000	<500	inaccessible	182
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Trichloroethene	79-01-6	5	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Vinyl chloride	75-01-4	2	-	-	-	<1000	<1000	<1000	<500	inaccessible	<1
Xylene (Total)	1330-20-7	10000	-	-	-	<3000	<3000	<3000	<1500	inaccessible	<1500

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

GM-2  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result					
<b>Lab</b>		9/1/2011	12/19/2011	4/10/2012	6/26/2012	9/24/2012	2/4/2013
Ethane	74-84-0	<0.010	<0.010	<0.0124	0.0131	-	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	-	<0.0062
Methane	74-82-8	2.77	2.14	1.18	4.42	-	0.0356
Iron	7439-89-6	13.9	7.31	0.834	5.04	-	4.54
Manganese	7439-96-5	7.38	10.1	8.38	9.42	-	0.274
Alkalinity		530	475	480	490	-	14200
Total Dissolved Solids		1.21	1060	1170	1080	-	183
pH		6.7	6.8	6.8	6.8	-	12.4
Chloride	16887-00-6	250	265	320	246	-	277
Sulfate	14808-79-8	<5.0	<1.0	5.5	18.7	-	1510
Nitrogen, Nitrate		<0.10	<0.10	0.1	<0.10	-	1.3
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	-	1.1
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	-	2.3
Total Organic Carbon	7440-44-0	190	198	200	194	-	403
Carbon Dioxide	124-38-9	600	569	575	587	-	4710
<b>Field</b>							
Dissolved Iron		0.9	1.1	-	0.6	-	0.0
Dissolved Manganese		0	0	-	0.7	-	0.0
DO		0.35	470	0.03	0.93	-	0.08
pH		6.45	6.9	6.78	6.66	-	7.11
ORP		-42.3	-30.4	-20.7	-66	-	88.2
Temperature		10.45	8.31	9.56	23.71	-	14.62

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-4  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample							
			Date & Result	Sample Date & Result						
			7/13/2000	9/1/2011	12/19/2011	4/9/2012	6/26/2012	9/24/2012	2/4/2013	
1,1,1-Trichloroethane	71-55-6	200	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	<250	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2	13	2.78	2.67	327	12	12.8	0.4	2/13
Benzene	71-43-2	5	0.57	<25	<1.0	<1.0	<1.0	1.5	<1.0	944.72
Carbon disulfide	75-15-0	720	-	<125	<5.0	<5.0	<5.0	<5.0	<5.0	3.1
Chlorobenzene	108-90-7	100	240	1740	18.4	64.1	225	609	<1.0	1810
Chloroform	67-66-3	80	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	156-59-2	70	-	<25	<1.0	<1.0	<1.0	1.5	<1.0	
Ethylbenzene	100-41-4	700	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Iodomethane	74-88-4	No RSL	-	<250	<10.0	<10.0	<10.0	<10.0	<10.0	
Methylene chloride	75-09-2	5	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	127-18-4	5	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Toluene	108-88-3	100	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
trans-1,2-Dichloroethene	156-60-5	100	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Trichloroethene	79-01-6	5	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Vinyl chloride	75-01-4	2	-	<25	<1.0	<1.0	<1.0	<1.0	<1.0	
Xylene (Total)	1330-20-7	10000	-	<75	<3.0	<3.0	<3.0	<3.0	<3.0	

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-4  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result					
<b>Lab</b>		9/1/2011	12/19/2011	4/9/2012	6/26/2012	9/24/2012	2/4/2013
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	0.0195	0.0482	0.0113	0.0231	0.0166	<0.0066
Iron	7439-89-6	17	2.24	1.11	1.88	1.59	3.63
Manganese	7439-96-5	4.14	3.36	1.92	1.74	1.78	2.06
Alkalinity		260	225	194	205	230	234
Total Dissolved Solids		338	334	1980	285	360	350
pH		7.1	7.4	7.4	7.1	7.3	7.6
Chloride	16887-00-6	11.6	11.5	6.4	5	4.2	12.7
Sulfate	14808-79-8	39.1	40.6	43.2	42.7	49.8	46.0
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.20	<0.20
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.20	<0.20
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.20	<0.20
Total Organic Carbon	7440-44-0	9.4	6	3.8	3.6	6.2	4.7
Carbon Dioxide	124-38-9	243	216	186	213	226	218
<b>Field</b>							
Dissolved Iron		0.1	0.6	0.8	0.3	-	0.5
Dissolved Manganese		0	0	0	0	-	0
DO		130	240	0.04	0.51	0.01	0.4
pH		7.26	7.15	7.2	6.98	6.95	6.95
ORP		-70.2	-63.2	-80.3	-111.9	-86.9	-87.5
Temperature		18.28	18.28	18.41	21.25	23.09	20.63

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-5R  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date	Sample Date	Sample Date &	Sample Date &	Sample Date &	
			& Result	& Result	Result	Result	Result	& Result
			6/21/2000	9/1/2011	12/19/2011	4/10/2012	6/26/2012	9/24/2012
1,1,1-Trichloroethane	71-55-6	200	-	-	-	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2	6	-	-	0.48	<0.1	2.31
Benzene	71-43-2	5	-	-	-	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	-	-	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	4	-	-	22.6	10.9	5.7
Chloroform	67-66-3	80	-	-	-	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	2.2	-	-	5.1	6.5	6.8
Ethylbenzene	100-41-4	700	-	-	-	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	-	-	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	0.28	-	-	42.8	4.9	1.8
Xylene (Total)	1330-20-7	10000	-	-	-	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data. Note MW-5 was not found; replaced by MW-5R in March 2012

MW-5R  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result				
<b>Lab</b>		9/2/2011	12/0/11	4/10/2012	6/26/2012	9/24/2012
Ethane	74-84-0	-	-	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	<0.0124	<0.0062	<0.0062
Methane	74-82-8	-	-	0.391	0.0443	0.0292
Iron	7439-89-6	-	-	5.09	7.64	7.94
Manganese	7439-96-5	-	-	5.48	6.11	6.54
Alkalinity		-	-	338	357	357
Total Dissolved Solids		-	-	952	1070	1190
pH		-	-	7.1	7.1	7.2
Chloride	16887-00-6	-	-	188	243	272
Sulfate	14808-79-8	-	-	193	204	193
Nitrogen, Nitrate		-	-	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	-	-	2.8	2.9	11.5
Carbon Dioxide	124-38-9	-	-	351	371	360
<b>Field</b>						
Dissolved Iron		-	-	0	0.1	-
Dissolved Manganese		-	-	0	2.2	-
DO		-	-	0.03	0.48	0.46
pH		-	-	7	6.55	6.81
ORP		-	-	-71	-110.2	-104.6
Temperature		-	-	16.79	21.31	24.19

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-9  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date &				
			Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2	0.20	1.63	0.17	<0.10	<0.10
Benzene	71-43-2	5	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	148	<1.0	<1.0	<1.0	<1.0
Chloroform	67-66-3	80	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	<1.0	<1.0	42.8	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-9  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result				
Lab		9/1/2011	12/19/2011	4/10/2012	6/26/2012	9/25/2012
Ethane	74-84-0	0.298	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	9.29	<0.010	0.062	0.013	0.0151
Iron	7439-89-6	29.6	8.3	8.57	2.06	6.87
Manganese	7439-96-5	0.381	4.79	1.3	0.812	1.06
Alkalinity		718	300	358	334	363
Total Dissolved Solids		1440	623	644	602	657
pH		6.9	7.5	7.4	7.3	7.6
Chloride	16887-00-6	353	84	67.1	63	55.3
Sulfate	14808-79-8	5.1	87.7	97.2	96.4	105
Nitrogen, Nitrate		<0.10	3.5	0.12	0.23	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	3.6	0.13	0.26	<0.10
Total Organic Carbon	7440-44-0	17.3	2.2	4.6	3.7	4.1
Carbon Dioxide	124-38-9	744	283	344	328	338
Field						
Dissolved Iron		4.2	5	5.8	0	-
Dissolved Manganese		0	0	0	0	-
DO		600	240	0.04	0.49	0.38
pH		7.11	7.01	7.1	7.18	7.16
ORP		-113.2	-120.1	-115.5	-74.3	89.6
Temperature		18.59	18.29	18.91	23.09	21.73

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-11A  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date &				
			Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<2.0	<2.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<2.0	<2.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	<20.0	<20.0	<10.0	<10.0
Alachlor	15972-60-8	2	0.43	<0.13	5.16	3.68	1.36
Benzene	71-43-2	5	<1.0	<2.0	<2.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	<5.0	<10.0	<10.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	247	<2.0	<2.0	<1.0	<1.0
Chloroform	67-66-3	80	<1.0	<2.0	<2.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<2.0	<2.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	<1.0	<2.0	<2.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<20.0	<20.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<2.0	<2.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	<1.0	<2.0	<2.0	<1.0	<1.0
Toluene	108-88-3	100	<1.0	<2.0	<2.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<2.0	<2.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<2.0	<2.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	<1.0	<2.0	<2.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-11A  
Former Acetanilides Production Area (APA)

Contituent	CAS	Sample Date & Result				
<b>Lab</b>		9/1/2011	12/21/2011	4/9/2012	6/26/2012	9/24/2012
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	17.7	<0.010	8.12	9.39	8.54
Iron	7439-89-6	30.7	<0.050	51.3	56.8	50200
Manganese	7439-96-5	0.385	<0.005	0.707	0.725	706
Alkalinity		703	295	1.13	1320	1470
Total Dissolved Solids		1470	333	2.93	3810	3680
pH		6.9	7.9	7.1	7.1	7.2
Chloride	16887-00-6	435	2	0.386	70.9	15.8
Sulfate	14808-79-8	9.4	19.6	<20.0	<1.0	<1.0
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.20
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.20
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.20
Total Organic Carbon	7440-44-0	16.2	0.71	1190	980	404
Carbon Dioxide	124-38-9	720	267	1170	1370	1480
<b>Field</b>						
Dissolved Iron		-	-	-	2.8	-
Dissolved Manganese		-	-	-	0	-
DO		340	490	0.02	0.069	0.54
pH		7.07	6.99	7.03	7.09	6.97
ORP		-152.8	-150.1	-153.2	-199.4	-151.0
Temperature		20.92	21.03	22.37	27.14	20.86

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-13  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date &						
			Result						
			6/19/2000	6/19/2000	9/1/2011	12/20/2011	4/10/2012	6/26/2012	9/25/2012
1,1,1-Trichloroethane	71-55-6	200	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2	-	-	0.19	0.39	1.58	13.4	<0.1
Benzene	71-43-2	5	720	780	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	-	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	1400	1400	214	10.8	12.2	13.7	13.9
Chloroform	67-66-3	80	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	-	<3.0	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-13  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result				
Lab		9/1/2011	12/20/2011	4/10/2012	6/26/2012	9/25/2012
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	22.6	2.71	1.17	2.4	2.78
Iron	7439-89-6	79.6	17.9	14.4	10.7	12.9
Manganese	7439-96-5	1.53	1.08	1.26	1.31	1.42
Alkalinity		1090	655	692	682	743
Total Dissolved Solids		1420	365	1830	2160	2420
pH		6.9	7.2	7.2	7.3	7.6
Chloride	16887-00-6	345	374	453	686	708
Sulfate	14808-79-8	16.4	<1.0	96.1	34.1	1.8
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	18.8	25.8	30.4	30.7	11.9
Carbon Dioxide	124-38-9	1100	659	696	669	691
Field						
Dissolved Iron		6.1	7	8	0.1	-
Dissolved Manganese		0	0	0	0	-
DO		310	720	0.02	0.57	0.26
pH		7.01	7.11	7.2	7.13	7.02
ORP		-102.1	-90.2	-108.7	-152.4	-133.7
Temperature		13.5	11.93	12.03	26.02	19.46

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-15  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date & Result					
1,1,1-Trichloroethane	71-55-6	200		<50	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5		<50	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000		<500	<10.0	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2		2.83	1.29	1.15	30.7	<0.10
Benzene	71-43-2	5		<50	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720		<250	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	26	2840	1.4	1.3	<1.0	3.5
Chloroform	67-66-3	80		<50	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	14	<50	<1.0	<1.0	<1.0	4.5
Ethylbenzene	100-41-4	700		<50	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL		<500	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5		<50	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5		<50	<1.0	<1.0	<1.0	1.1
Toluene	108-88-3	100	0.83	<50	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100		<50	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	0.38	<50	<1.0	<1.0	<1.0	1.5
Vinyl chloride	75-01-4	2	0.93	<50	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000		<150	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-15  
Former Acetanilides Production Area (APA)

Contituent	CAS	Sample Date & Result					
<b>Lab</b>		9/1/2011	12/28/2011	12/28/2011	4/10/2012	6/27/2012	10/2/2012
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.0405	<0.010	<0.010	0.0124	0.0639	0.0663
Iron	7439-89-6	10.5	3.73	3.22	4.78	4.26	5.5
Manganese	7439-96-5	6.03	2.04	1.99	6.73	7.16	6.48
Alkalinity		260	115	76	208	213	212
Total Dissolved Solids		352	<0.005	44	291	379	276
pH		7.1	7.4	7.4	7.2	8.0	7.4
Chloride	16887-00-6	14.5	4.5	3.1	5.3	5.8	5.2
Sulfate	14808-79-8	40.3	16.6	12.3	21.8	19.6	19.2
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	7.2	2.6	2.5	3	3.3	3.6
Carbon Dioxide	124-38-9	252	110	72.9	209	192	204
<b>Field</b>							
Dissolved Iron		0	0	-	0	-	-
Dissolved Manganese		0	0	-	0	-	-
DO		120	310	-	0.05	0.58	0.26
pH		7.1	7.07	-	7.17	6.34	6.88
ORP		40.3	43.8	-	51	-10.4	17.1
Temperature		16.24	5.81	-	15.56	26.21	23.24

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-19  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date & Result					
			6/30/2000	9/1/2011	12/19/2011	4/9/2012	6/27/2012	9/25/2012
1,1,1-Trichloroethane	71-55-6	200	-	<1000	<100	<100	<100	<50
1,2-Dichloroethane	107-06-2	5	-	<1000	<100	<100	<100	<50
Acetone	67-64-1	12000	-	<10000	<1000	<1000	<1000	<500
Alachlor	15972-60-8	2	-	3.03	2.81	4.3	8.53	<0.10
Benzene	71-43-2	5	-	<1000	<100	<100	<100	<50
Carbon disulfide	75-15-0	720	-	<5000	<500	<500	<500	<250
Chlorobenzene	108-90-7	100	20000	68700	9220	14800	39000	28700
Chloroform	67-66-3	80	-	<1000	<100	<100	<100	<50
cis-1,2-Dichloroethene	156-59-2	70	-	<1000	<100	<100	<100	<50
Ethylbenzene	100-41-4	700	-	<1000	<100	<100	<100	<50
Iodomethane	74-88-4	No RSL	-	<10000	<1000	<1000	<1000	<500
Methylene chloride	75-09-2	5	-	1780	<100	<100	<100	<50
Tetrachloroethene	127-18-4	5	-	<1000	<100	<100	<100	<50
Toluene	108-88-3	100	-	<1000	<100	<100	<100	<50
trans-1,2-Dichloroethene	156-60-5	100	-	<1000	<100	<100	<100	<50
Trichloroethene	79-01-6	5	-	<1000	<100	<100	<100	<50
Vinyl chloride	75-01-4	2	-	<1000	<100	<100	<100	<50
Xylene (Total)	1330-20-7	10000	-	<3000	<300	<300	<300	<150

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-19  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result					
Lab		9/1/2011	12/19/2011	4/9/2012	6/27/2012	9/25/2012	2/4/2013
Ethane	74-84-0	<0.010	0.0267	0.049	0.0756	0.0343	0.067
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	19.3	0.863	1.57	2.17	1.00	1.76
Iron	7439-89-6	23.4	8.06	3.69	3.68	3.36	17.1
Manganese	7439-96-5	4.54	22.1	3.17	2.91	3.02	4.25
Alkalinity		608	415	0.566	568	541	571
Total Dissolved Solids		795	639	2.08	800	825	790
pH		7	7.3	7.2	7.4	7.2	7.1
Chloride	16887-00-6	100	103	84.3	95.4	112	104
Sulfate	14808-79-8	2.5	15.6	3.2	2.4	8.1	2.7
Nitrogen, Nitrate		<0.10	0.36	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	0.37	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	46.8	34.4	41.5	38.7	47.9	46.6
Carbon Dioxide	124-38-9	617	407	570	545	544	593
Field							
Dissolved Iron		1.1	2.1	2.4	0.1	-	0
Dissolved Manganese		0	0	0	0.1	-	0.1
DO		420	470	0.04	0.62	0.24	0.29
pH		7.01	7.09	7.08	6.9	6.73	6.81
ORP		-109.3	-125.3	-107.3	-125.5	-148.6	-132.6
Temperature		25.98	24.03	25.63	19.46	25.48	21.7

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

MW-23  
Former Acetanilides Production Area (APA)

Constituent	CAS	MCL*	Sample Date & Result				
			7/21/2000	9/1/2011	12/19/2011	4/10/2012	6/26/2012
1,1,1-Trichloroethane	71-55-6	200	-	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	<10.0	<10.0	<10.0	<10.0
Alachlor	15972-60-8	2	-	0.23	0.27	0.82	1.42
Benzene	71-43-2	5	-	<1.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	52	25.2	1.2	4.2	2.0
Chloroform	67-66-3	80	-	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-23  
Former Acetanilides Production Area (APA)

Contingent	CAS	Sample Date & Result				
Lab		9/1/2011	12/19/2011	4/10/2012	6/26/2012	9/25/2012
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	8.61	1.19	3.03	3.23	0.0231
Iron	7439-89-6	176	1.42	9.93	2.87	0.452
Manganese	7439-96-5	3.85	0.29	0.839	0.373	0.101
Alkalinity		1100	310	512	348	193
Total Dissolved Solids		1440	420	617	429	297
pH		6.9	7.7	7.3	7.7	8.0
Chloride	16887-00-6	344	39.7	27.7	22.1	19.3
Sulfate	14808-79-8	15.2	3.8	3.4	1	5.7
Nitrogen, Nitrate		<0.10	0.14	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	0.16	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	25	9.5	9.4	8.9	7.5
Carbon Dioxide	124-38-9	1060	285	502	320	174
Field						
Dissolved Iron		-	1.6	1.8	0	-
Dissolved Manganese		-	0	0	0	-
DO		820	320	0.04	0.40	0.44
pH		6.93	7.31	7.3	7.51	8.01
ORP		99.2	-141	-125.8	-148.5	-8.4
Temperature		15.32	14.06	14.99	24.71	21.87

Samples are reported in parts mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates result below the reported detection limit

**TABLE 4**  
**FORMER BULK CHEMICAL STORAGE AREA WELLS**  
**VOC AND NATURAL ATTENUATION PARAMETERS**

MW-24A  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample														
			Date & Result														
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5	7/13	
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Acetone	67-64-1	12000	-	-	-	-	-	-	-	<5000	<200	<500	<500	<500	<50		
Benzene	71-43-2	5	83	11000	12000	8000	7000	9600	9800	9600	45900	6520	7140	6250	5480	6710	7070
Carbon disulfide	75-15-0	720	-	-	-	-	-	-	-	<2500	<100	<2500	<2500	<50	<25		
Chlorobenzene	108-90-7	100	21	2700	2600	1600	1500	1800	1800	1700	41800	1310	1390	1120	1090	1470	1240
Chloroform	67-66-3	80	-	-	-	-	-	-	-	529	<20	<50	<50	41	<5	13	
cis-1,2-Dichloroethene	156-59-2	70	46	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Ethylbenzene	100-41-4	700	-	900	920	810	810	910	980	1000	<500	196	223	110	59.3	83	360
Iodomethane	74-88-4	No RSL	-	-	-	-	-	-	-	<5000	<200	<500	<500	<100	<50		
Methylene chloride	75-09-2	5	-	-	-	-	-	-	-	1550	<20	64.7	64.7	<10	<5		
Tetrachloroethene	127-18-4	5	-	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Toluene	108-88-3	100	0.85	140	140	120	120	140	140	140	<500	77.4	82.6	106	58.4	63.8	80
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Trichloroethene	79-01-6	5	2.5	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Vinyl chloride	75-01-4	2	-	-	-	-	-	-	-	<500	<20	<50	<50	<10	<5		
Xylene (Total)	1330-20-7	10000	14	3000	3000	2400	2400	2600	2800	2800	<1500	266	249	<150	83.5	122	624

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-24A  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result													
<b>Lab</b>		4/28/2004	4/28/2004	8/23/2004	8/23/2004	11/19/2004	11/19/2004	1/7/2005	9/6/2011	12/20/2011	3/29/2012	7/9/2012	10/22/2012	2/5/2013	
Ethane	74-84-0	0.0058	0.006	-	-	0.0085	0.016	0.003	<0.010	<0.010	<0.0124	<0.0062	<0.0062	0.0128	
Ethene	74-85-1	-	0.00057	-	-	-	-	0.00013	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	
Methane	74-82-8	2.3	2	1.6	2.2	6.3	9.3	1.3	4.02	3.89	3.62	2.7	2.22	1.6	
Iron	7439-89-6	-	-	-	-	-	-	-	33.4	38.6	40.9	40.7	37.9	77.5	
Manganese	7439-96-5	-	-	-	-	-	-	-	2.43	2.44	2.71	2.69	2.87	4.47	
Alkalinity		750	750	740	740	740	740	720	674	575	860	640	603	643	
Total Dissolved Solids		-	-	-	-	-	-	-	814	820	840	828	846	900	
pH		-	-	-	-	-	-	-	7.0	6.8	6.9	7.0	6.8	11.6	
Chloride	16887-00-6	90	89	85	85	98	100	95	98.8	93.6	94.2	97.7	88.9	99.4	
Sulfate	14808-79-8	-	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	
Nitrogen, Nitrate		-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, Nitrite		-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	-	-	-	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	
Total Organic Carbon	7440-44-0	33	32	20	21	22	20	20	22.7	23.4	24	27.5	17.5	32.2	
Carbon Dioxide	124-38-9	280	310	240	250	180	160	160	728	688	973	692	722	566	
<b>Field</b>															
Dissolved Iron		-	-	-	-	-	-	-	1.1	1.2	1.4	-	-	1.8	
Dissolved Manganese		-	-	-	-	-	-	-	0	0	0	-	-	0	
DO		-	-	-	-	-	-	-	800	1020	0.01	0.07	0.77	0.99	
pH		-	-	-	-	-	-	-	6.29	6.75	6.81	6.56	6.76	6.81	
ORP		-	-	-	-	-	-	-	-101.6	-85.4	-130.8	-154.5	-92.3	-88.2	
Temperature		-	-	-	-	-	-	-	20.07	13.77	18.26	22.03	15.13	14.59	

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-24 B  
Former Bulk Chemical Storage Area (FBCSA)

Constituent	CAS	MCL*	Sample											
			Date & Result											
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Acetone	67-64-1	12000	-	-	-	-	-	<500	<10000	<10000	<10000	<1000	<1000	<500
Benzene	71-43-2	5	6200	18000	29000	20000	32000	8040	42400	42100	42800	4580	18900	15500
Carbon disulfide	75-15-0	720	-	-	-	-	-	<250	<5000	<5000	<5000	<100	<500	<250
Chlorobenzene	108-90-7	100	15000	130000	190000	110000	100000	1500	163000	54900	56700	15700	83300	398000
Chloroform	67-66-3	80	-	-	-	-	-	50.3	<1000	<1000	<1000	<100	<100	<50
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Ethylbenzene	100-41-4	700	-	-	-	-	-	252	<1000	<1000	<1000	<100	<100	570
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<500	<10000	<10000	<10000	<1000	<1000	<500
Methylene chloride	75-09-2	5	180	-	-	-	-	157	<1000	<1000	<1000	<100	<100	<50
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Toluene	108-88-3	100	110	1600	2500	880	1100	87.3	3060	<1000	1320	294	1100	5640
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Trichloroethene	79-01-6	5	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Vinyl chloride	75-01-4	2	-	-	-	-	-	<50	<1000	<1000	<1000	<100	<100	<50
Xylene (Total)	1330-20-7	10000	-	640	1400	-	-	339	<3000	<3000	<3000	<300	<300	3030

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-24B  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result												
<b>Lab</b>		4/26/2004	8/19/2004	9/14/2004	#####	1/7/2005	9/6/2011	12/21/2011	3/29/2012	3/29/2012	7/9/2012	10/22/2012	2/6/2013	
Ethane	74-84-0	0.0019	0.0031	-	0.0026	0.0025	0.0121	<0.010	<0.0124	<0.0124	0.0226	0.0226	0.0069	
Ethene	74-85-1	0.002	-	-	-	0.001	<0.010	<0.010	<0.0124	<0.0124	<0.0062	<0.0062	0.0075	
Methane	74-82-8	0.83	0.88	-	2.5	1.9	9.24	2.85	4.33	3.63	9.98	0.936	0.986	
Iron	7439-89-6	-	-	30	-	-	41	14.7	22.3	22.4	37	22.2	388	
Manganese	7439-96-5	-	-	0.9	-	-	0.763	0.741	0.784	0.779	0.576	0.622	7.5	
Alkalinity		740	860	-	890	900	874	910	860	860	804	693	791	
Total Dissolved Solids		-	-	1200	-	-	1180	1250	1160	1180	1220	1140	1430	
pH		-	-	7	-	-	7.1	7.1	6.9	6.9	7.0	7.1	7.4	
Chloride	16887-00-6	110	98	-	120	120	193	189	242	249	205	208	213	
Sulfate	14808-79-8	42	-	-	-	63	1	7.2	4.9	50.6	7.2	26.2	19.7	
Nitrogen, Nitrate		-	0.06	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, Nitrite		-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Total Organic Carbon	7440-44-0	37	55	-	44	29	39.5	68	22	43.4	52.6	40.9	85.2	
Carbon Dioxide	124-38-9	110	180	-	140	170	908	945	973	973	868	720	760	
<b>Field</b>														
Dissolved Iron		-	-	-	-	-	6.2	8.1	-	10	-	-	1.1	
Dissolved Manganese		-	-	-	-	-	0	0	-	0	-	-	1.4	
DO		-	-	-	-	-	860	1422	-	1.1	1.02	-	0.81	
pH		-	-	-	-	-	6.53	6.7	-	6.66	6.84	-	6.85	
ORP		-	-	-	-	-	-123.6	-103.3	-	-93.1	-169.7	-	-112.1	
Temperature		-	-	-	-	-	23.54	18.51	-	18.28	20.57	-	18.63	

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-25 A  
Former Bulk Chemical Storage Area (FBCSA)

Constituent	CAS	MCL*	Sample									
			Date & Result									
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	-	-	<10.0	147	16.2	13.0	<10.0
Benzene	71-43-2	5	160	210	530	500	110	45.1	<5.0	<1.0	<1.0	<1.0
Carbon disulfide	75-15-0	720	-	-	-	-	-	<5.0	<25.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	950	2800	2400	3400	520	210	21.8	4.0	5.0	4.9
Chloroform	67-66-3	80	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	160	-	55	64	4.6	<1.0	<5.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10.0	<50.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<1.0	9.9	<1.0	<1.0	<1.0
Toluene	108-88-3	100	16	-	-	-	-	3.1	20.7	<1.0	2.7	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	-	-	-	-	<1.0	<5.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	370	40	43	-	-	5.3	<15.0	<3.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-25A  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result								
<b>Lab</b>		4/29/2004	8/23/2004	11/22/2004	1/11/2005	9/23/2011	12/20/2011	3/29/2012	7/2/2012	9/27/2012
Ethane	74-84-0	0.0008	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	0.0008	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.73	0.64	0.18	0.15	6.37	18.7	0.0642	4.92	6.57
Iron	7439-89-6	-	-	-	-	-	2.13	1.53	0.327	0.173
Manganese	7439-96-5	-	-	-	-	-	36.9	0.0517	0.0232	0.0463
Alkalinity		1200	1000	1100	1000	1010	1320	910	876	930
Total Dissolved Solids		-	-	-	-	999	3340	1130	1090	1140
pH		-	-	-	-	7.2	11	9.3	8.9	8.2
Chloride	16887-00-6	52	51	62	54	12.6	17.5	36.9	26.9	38.6
Sulfate	14808-79-8	-	58	-	62	3.8	326	2.4	3.1	3.1
Nitrogen, Nitrate		-	-	0.2	0.045	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	7	15	8.7	9.8	8.3	478	97.5	32.2	20.4
Carbon Dioxide	124-38-9	150	260	110	100	1020	660	705	751	830
<b>Field</b>										
Dissolved Iron		-	-	-	-	-	-	0	0	-
Dissolved Manganese		-	-	-	-	-	-	0	0	-
DO		-	-	-	-	260	420	0.02	0.71	0.52
pH		-	-	-	-	7.83	11.12	9.29	8.67	8.25
ORP		-	-	-	-	-115.7	18.8	-108	-151.7	-102.5
Temperature		-	-	-	-	-	7.83	16.86	21.8	23.41
										19.3

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-25B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result									
			7/10/2000	4/27/2004	8/23/2004	11/22/2004	1/11/2005	9/23/2011	12/21/2011	3/29/2012	7/2/2012	10/1/2012
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	3.4	80	12	200	8.1	<1.0	<1.0	4.8	7.9	<1.0
Carbon disulfide	75-15-0	720	-	-	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	63	330	260	910	120	70.1	<1.0	70	37.1	6.1
Chloroform	67-66-3	80	2.8	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	5.6	-	3.0	-	0.82	<1.0	<1.0	1.0	2.1	6.9
Ethylbenzene	100-41-4	700	1.4	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	0.74	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	0.93	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	14	-	-	-	-	<1.0	<1.0	6.7	4.5	7
Xylene (Total)	1330-20-7	10000	41	-	-	-	-	<3.0	<3.0	<3.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"--" indicates no data

MW-25B  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result								
<b>Lab</b>		4/27/2004	8/23/2004	11/22/2004	1/11/2005	9/23/2011	12/21/2011	3/29/2012	7/2/2012	10/1/2012
Ethane	74-84-0	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.14	0.073	0.0057	0.071	0.607	0.319	0.0316	0.0845	0.0256
Iron	7439-89-6	-	-	-	-	-	8.55	29.2	40.5	21.5
Manganese	7439-96-5	-	-	-	-	-	0.182	1.24	1.64	1.62
Alkalinity		690	750	720	590	710	1320	755	732	647
Total Dissolved Solids		-	-	-	-	1070	1520	1250	1220	1080
pH		-	-	-	-	7.1	7.8	7.0	7.1	7.0
Chloride	16887-00-6	80	65	84	83	117	65.5	111	120	94.5
Sulfate	14808-79-8	130	76	100	190	164	78.1	201	198	193
Nitrogen, Nitrate		-	-	-	-	<0.10	0.15	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	0.17	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	3.7	5.6	5.2	3.9	4.7	12.5	8.1	7	5.7
Carbon Dioxide	124-38-9	160	180	95	76	738	1200	815	760	698
<b>Field</b>										
Dissolved Iron		-	-	-	-	2.1	2.4	2.5	-	-
Dissolved Manganese		-	-	-	-	0	0	0	0	-
DO		-	-	-	-	260	1390	0.02	2.06	3.91
pH		-	-	-	-	7.02	7.01	6.97	6.98	6.83
ORP		-	-	-	-	-100.1	-88.2	-104.9	-133	-50.8
Temperature		-	-	-	-	20.87	18.75	19.31	31.01	17.48

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-31B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	15	17	14	<1.0	<1.0	<1.0	8.6	14.1
Carbon disulfide	75-15-0	720	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	4.2	5.8	7.4	<1.0	8.7	3.8	9.5	2.8
Chloroform	67-66-3	80	-	-	-	15.8	14.6	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	-	-	0.37	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	0.55	-	-	<1.0	<1.0	<1.0	1.2	1.6
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	0.97	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	1.3	-	-	<3.0	<3.0	<3.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-31B  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result								
<b>Lab</b>		8/18/2004	11/18/2004	1/11/2005	3/3/2005	8/31/2011	12/28/2011	3/28/2012	7/12/2012	10/2/2012
Ethane	74-84-0	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	37	0.0089	0.64	-	<0.010	<0.010	0.102	0.769	0.224
Iron	7439-89-6	-	-	-	-	0.44	27.5	24.8	27.3	22.9
Manganese	7439-96-5	-	-	-	-	0.0546	0.638	1.55	2.02	1.52
Alkalinity		750	750	760	-	158	185	740	703	730
Total Dissolved Solids		-	-	-	-	344	301	960	992	973
pH		-	-	-	-	7.3	7.4	6.8	7.3	6.9
Chloride	16887-00-6	81	98	82	-	34.5	34.2	70.1	64.8	65.3
Sulfate	14808-79-8	100	110	100	-	75.8	72.4	106	95.2	88.0
Nitrogen, Nitrate		-	-	-	-	1.9	0.84	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	1.9	0.84	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	3.7	5.3	3.7	-	2.9	5.2	4.2	6.5	3.9
Carbon Dioxide	124-38-9	120	150	130	-	147	178	886	689	826
<b>Field</b>										
Dissolved Iron		-	-	-	-	0	0	0	0.1	-
Dissolved Manganese		-	-	-	-	1.1	1.8	2	0.1	-
DO		-	-	-	-	600	1550	0.87	1.13	0.21
pH		-	-	-	-	6.9	7.11	6.45	6.99	6.88
ORP		-	-	-	-	-100.3	-115.3	-108.4	-154.5	-134.4
Temperature		-	-	-	-	20.18	18.64	21.3	20.81	22.26

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-32A  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date &					
			Result	Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	dry	dry	dry
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<1.0	dry	dry	dry
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	dry	dry	dry
Benzene	71-43-2	5	<1.0	<1.0	<1.0	dry	dry	dry
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	dry	dry	dry
Chlorobenzene	108-90-7	100	<1.0	9.6	15.8	dry	dry	dry
Chloroform	67-66-3	80	14.5	15.1	16.9	dry	dry	dry
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	<1.0	dry	dry	dry
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	dry	dry	dry
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	dry	dry	dry
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	dry	dry	dry
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<1.0	dry	dry	dry
Toluene	108-88-3	100	<1.0	<1.0	<1.0	dry	dry	dry
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	dry	dry	dry
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	dry	dry	dry
Vinyl chloride	75-01-4	2	<1.0	<1.0	<1.0	dry	dry	dry
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	dry	dry	dry

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-32A  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result					
<b>Lab</b>		8/30/2011	12/28/2011	12/28/2011	4/2/2012	7/11/2012	10/2/2012
Ethane	74-84-0	<0.010	<0.010	<0.010	dry	dry	dry
Ethene	74-85-1	<0.010	<0.010	<0.010	dry	dry	dry
Methane	74-82-8	<0.010	<0.010	<0.010	dry	dry	dry
Iron	7439-89-6	1.64	6.2	6.69	dry	dry	dry
Manganese	7439-96-5	0.262	0.226	0.743	dry	dry	dry
Alkalinity		158	185	305	dry	dry	dry
Total Dissolved Solids		334	324	446	dry	dry	dry
pH		7.3	7.3	7.2	dry	dry	dry
Chloride	16887-00-6	33.6	34	38.5	dry	dry	dry
Sulfate	14808-79-8	78.5	75.7	85.7	dry	dry	dry
Nitrogen, Nitrate		1.9	0.87	0.56	dry	dry	dry
Nitrogen, Nitrite		<0.10	<0.10	<0.10	dry	dry	dry
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		1.9	0.87	0.56	dry	dry	dry
Total Organic Carbon	7440-44-0	3.3	4.4	4.1	dry	dry	dry
Carbon Dioxide	124-38-9	150	181	307	dry	dry	dry
<b>Field</b>							
Dissolved Iron		0	-	-	dry	dry	dry
Dissolved Manganese		1.1	-	-	dry	dry	dry
DO		750	1750	-	dry	dry	dry
pH		7.11	8.01	-	dry	dry	dry
ORP		-103.3	-100.2	-	dry	dry	dry
Temperature		17.61	16.31	-	dry	dry	dry

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-32B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result											
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Acetone	67-64-1	12000	-	-	-	-	-	<10.0	<10.0	<100	<100	<10.0	<10.0	
Benzene	71-43-2	5	31000	30000	28000	27000	7900	8900	<1.0	<1.0	<10.0	<10.0	15.8	
Carbon disulfide	75-15-0	720	-	-	-	-	-	<5.0	<5.0	<50	<50	<5.0	<5.0	
Chlorobenzene	108-90-7	100	-	-	710	720	620	760	<1.0	16.2	760	641	651	
Chloroform	67-66-3	80	-	-	-	-	-	17.0	18.3	<10.0	<10.0	<1.0	<1.0	
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Ethylbenzene	100-41-4	700	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10.0	<10.0	<100	<100	<10.0	<10.0	
Methylene chloride	75-09-2	5	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Toluene	108-88-3	100	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Trichloroethene	79-01-6	5	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Vinyl chloride	75-01-4	2	-	-	-	-	-	<1.0	<1.0	<10.0	<10.0	<1.0	<1.0	
Xylene (Total)	1330-20-7	10000	-	-	-	-	-	<3.0	<3.0	<30	<30	<3.0	<3.0	

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-32B  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result										
<b>Lab</b>		8/17/2004	8/17/2004	11/18/2004	11/18/2004	1/10/2005	1/10/2005	8/31/2011	12/21/2011	4/2/2012	7/11/2012	10/2/2012
Ethane	74-84-0	0.0034	0.0037	0.023	0.0063	0.018	0.011	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	-	-		-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	3.2	3.8	4.4	5	10	6.7	<0.010	<0.010	0.0906	0.222	0.156
Iron	7439-89-6	-	-	-	-		-	0.533	0.324	36.4	32.1	29.9
Manganese	7439-96-5	-	-	-	-		-	0.0541	0.225	2.17	2.1	1.96
Alkalinity		630	640	630	630	630	630	160	205	548	519	488
Total Dissolved Solids		-	-	-	-		-	341	289	875	871	837
pH		-	-	-	-		-	7.4	7.3	7.1	7.1	7.4
Chloride	16887-00-6	140	140	160	160	130	130	34.4	29	70.5	61.6	56.1
Sulfate	14808-79-8	-	4.4	-	-		-	75.6	65.8	195	145	133
Nitrogen, Nitrate		-	-	-	-	0.052	0.056	2	0.95	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-		-	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-		-	2	0.97	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	13	13	11	12	8.1	8.4	4.8	2.8	4.6	4.7	4.0
Carbon Dioxide	124-38-9	370	320	230	250	190	210	144	201	569	539	469
<b>Field</b>												
Dissolved Iron		-	-	-	-	-	-	0	1.2	1.4	2.2	-
Dissolved Manganese		-	-	-	-	-	-	1.1	0	0	0.4	-
DO		-	-	-	-	-	-	100	710	0.72	1.2	-
pH		-	-	-	-	-	-	7.15	7.05	7.04	6.78	6.96
ORP		-	-	-	-	-	-	-130.4	-161.2	-150	-150.7	-140.4
Temperature		-	-	-	-	-	-	18.23	23.8	23.53	21.3	23.00

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-33A  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date &				
			Result	Result	Result	Result	Result
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<1.0	<1.0	dry
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<1.0	<1.0	dry
Acetone	67-64-1	12000	<10.0	<10.0	<10.0	<10.0	dry
Benzene	71-43-2	5	<1.0	<1.0	<1.0	<1.0	dry
Carbon disulfide	75-15-0	720	<5.0	<5.0	<5.0	<5.0	dry
Chlorobenzene	108-90-7	100	<1.0	33	<1.0	2.1	dry
Chloroform	67-66-3	80	15.3	12.8	<1.0	<1.0	dry
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	<1.0	<1.0	dry
Ethylbenzene	100-41-4	700	<1.0	<1.0	<1.0	<1.0	dry
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<10.0	<10.0	dry
Methylene chloride	75-09-2	5	<1.0	<1.0	<1.0	<1.0	dry
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<1.0	<1.0	dry
Toluene	108-88-3	100	<1.0	<1.0	<1.0	<1.0	dry
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<1.0	<1.0	dry
Trichloroethene	79-01-6	5	<1.0	<1.0	<1.0	<1.0	dry
Vinyl chloride	75-01-4	2	<1.0	<1.0	<1.0	<1.0	dry
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<3.0	<3.0	dry

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

MW-33A  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result				
<b>Lab</b>		8/30/2011	12/21/2011	3/28/2012	7/9/2012	10/2/2012
Ethane	74-84-0	<0.010	<0.010	<0.0124	<0.0062	dry
Ethene	74-85-1	<0.010	<0.010	<0.0124	<0.0062	dry
Methane	74-82-8	0.121	<0.010	0.4	0.256	dry
Iron	7439-89-6	38	304	31	31.4	dry
Manganese	7439-96-5	2.13	7.54	1.74	1.76	dry
Alkalinity		619	900	520	473	dry
Total Dissolved Solids		1120	796	1.03	1050	dry
pH		6.8	7.4	6.7	7.1	dry
Chloride	16887-00-6	18	27.1	120	124	dry
Sulfate	14808-79-8	379	15.2	230	228	dry
Nitrogen, Nitrate		<0.10	<0.010	<0.10	<0.10	dry
Nitrogen, Nitrite		<0.10	<0.010	<0.10	<0.10	dry
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.010	<0.10	<0.10	dry
Total Organic Carbon	7440-44-0	7.6	6.8	7.2	6	dry
Carbon Dioxide	124-38-9	666	864	665	491	dry
<b>Field</b>						
Dissolved Iron		0	0	0	-	dry
Dissolved Manganese		1	1	1	-	dry
DO		510	830	0.4	213	dry
pH		7.01	6.95	6.9	6.98	dry
ORP		-133.8	-	-135.9	-184.5	dry
Temperature		-	17.08	18.78	32.92	dry

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-33B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	-	-	-	<1.0	<1.0	<250	<250	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	<1.0	<1.0	<250	<250	<1.0
Acetone	67-64-1	12000	-	-	-	<10.0	<10.0	<2500	<2500	<10.0
Benzene	71-43-2	5	-	-	-	<1.0	<1.0	<250	<250	15.7
Carbon disulfide	75-15-0	720	-	-	-	<5.0	<5.0	<1250	<1250	<5.0
Chlorobenzene	108-90-7	100	23000	25000	18000	<1.0	33	17100	17600	11300
Chloroform	67-66-3	80	-	-	-	<1.0	12.8	<250	<250	<1.0
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	<1.0	<1.0	<250	<250	<1.0
Ethylbenzene	100-41-4	700	-	-	-	<1.0	<1.0	<250	<250	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	<10.0	<10.0	<2500	<2500	<10.0
Methylene chloride	75-09-2	5	-	-	-	<1.0	<1.0	<250	<250	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	<1.0	<1.0	<250	<250	<1.0
Toluene	108-88-3	100	-	-	-	<1.0	<1.0	<250	<250	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	<1.0	<1.0	<250	<250	<1.0
Trichloroethene	79-01-6	5	-	-	-	<1.0	<1.0	<250	<250	<1.0
Vinyl chloride	75-01-4	2	-	-	-	<1.0	<1.0	<250	<250	<1.0
Xylene (Total)	1330-20-7	10000	-	-	-	<3.0	<3.0	<750	<750	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-33B  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result							
<b>Lab</b>		8/17/2004	11/18/2004	1/10/2005	8/30/2011	12/21/2011	3/28/2012	7/9/2012	10/2/2012
Ethane	74-84-0	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.15	0.067	0.12	<0.010	0.0113	0.0307	0.0102	0.099
Iron	7439-89-6	-	-	-	0.735	1.61	8.58	4.24	52.8
Manganese	7439-96-5	-	-	-	0.109	0.644	2.83	1.51	2.19
Alkalinity		640	620	610	154	245	790	618	471
Total Dissolved Solids		-	-	-	338	474	797	717	1040
pH		-	-	-	7.3	7.6	6.9	7.3	7.2
Chloride	16887-00-6	90	130	120	33	54.8	24.3	24.1	90.4
Sulfate	14808-79-8	310	280	300	72.9	106	4.1	15.7	252
Nitrogen, Nitrate		-	-	-	1.9	0.25	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	<0.10	0.17	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	2	0.42	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	5.1	4.3	4	2.9	2.5	4.5	6.2	8.1
Carbon Dioxide	124-38-9	180	150	120	148	228	894	605	474
<b>Field</b>									
Dissolved Iron		-	-	-	0	0	0	0	-
Dissolved Manganese		-	-	-	1.1	1.4	1.6	0	-
DO		-	-	-	630	910	0.61	1.71	0.25
pH		-	-	-	7.01	6.88	6.99	7.06	6.95
ORP		-	-	-	-99.1	-100.2	-90.8	14.3	-143.8
Temperature		-	-	-	18.61	17.63	18.63	24.08	19.00

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

MW-34B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	<10.0	<100	<10.0	<10.0	<10.0
Benzene	71-43-2	5	-	4.6	-	<1.0	<10.0	<1.0	<1.0	1.1
Carbon disulfide	75-15-0	720	-	-	-	<5.0	<50	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	-	9.2	4.3	<1.0	<10.0	<1.0	<1.0	9.3
Chloroform	67-66-3	80	-	-	-	15.3	<10.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	0.4	0.42	0.56	<1.0	<10.0	2.9	2.8	<1.0
Ethylbenzene	100-41-4	700	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	<10.0	<100	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	<1.0	<10.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	-	-	-	<1.0	<10.0	1.0	1.3	<1.0
Xylene (Total)	1330-20-7	10000	-	-	-	<3.0	<3.0	<3.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

MW-34B  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result								
<b>Lab</b>		8/18/2004	11/18/2004	1/11/2005	8/30/2011	12/28/2011	3/28/2012	3/28/2012	7/9/2012	10/2/2012
Ethane	74-84-0	-	-	-	<0.010	<0.010	<0.0124	<0.0124	<0.0062	<0.0062
Ethene	74-85-1	-	-	-	<0.010	<0.010	<0.0124	<0.0124	<0.0062	<0.0062
Methane	74-82-8	0.025	0.015	0.064	<0.10	0.0965	0.0718	0.0656	<0.0066	0.0406
Iron	7439-89-6	-	-	-	0.97	9.43	29.6	29.6	19.8	27.1
Manganese	7439-96-5	-	-	-	0.151	1.11	2.24	2.24	0.989	2.19
Alkalinity		650	630	620	95	465	600	610	467	576
Total Dissolved Solids		-	-	-	336	673	1310	1370	1290	1230
pH		-	-	-	7.4	7.1	6.7	6.7	7.4	7.2
Chloride	16887-00-6	150	170	230	33.3	50	176	226	150	130
Sulfate	14808-79-8	500	490	490	73.1	111	284	334	375	286
Nitrogen, Nitrate		-	-	-	2	0.12	<0.10	<0.10	1.3	<0.10
Nitrogen, Nitrite		-	-	-	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	2	0.12	<0.10	<0.10	1.3	<0.10
Total Organic Carbon	7440-44-0	3.2	3.7	3.2	3.6	5.7	3.4	3.5	4.8	4.0
Carbon Dioxide	124-38-9	150	110	130	88.3	483	767	780	449	579
<b>Field</b>										
Dissolved Iron		-	-	-	-	0	-	0	4.5	-
Dissolved Manganese		-	-	-	-	0.6	-	0.8	0	-
DO		-	-	-	630	1300	-	1.63	0.89	0.38
pH		-	-	-	6.95	7.13	-	6.77	7.04	7.03
ORP		-	-	-	-123.1	-100.1	-	-112.4	-39.2	-113.8
Temperature		-	-	-	17.28	16.7	-	19.19	-	18.22

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

HW-1  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result						
			7/24/2000	7/24/2000	8/31/2011	12/16/2011	3/27/2012	6/26/2012	9/27/2012
1,1,1-Trichloroethane	71-55-6	200	-	23	<1.0	dry	dry	dry	inaccessible
1,2-Dichloroethane	107-06-2	5	-	-	<1.0	dry	dry	dry	inaccessible
Acetone	67-64-1	12000	-	-	<10.0	dry	dry	dry	inaccessible
Benzene	71-43-2	5	-	-	<1.0	dry	dry	dry	inaccessible
Carbon disulfide	75-15-0	720	-	-	<5.0	dry	dry	dry	inaccessible
Chlorobenzene	108-90-7	100	-	2.1	<1.0	dry	dry	dry	inaccessible
Chloroform	67-66-3	80	-	-	<1.0	dry	dry	dry	inaccessible
cis-1,2-Dichloroethene	156-59-2	70	1700	1000	<1.0	dry	dry	dry	inaccessible
Ethylbenzene	100-41-4	700	-	-	<1.0	dry	dry	dry	inaccessible
Iodomethane	74-88-4	No RSL	-	-	<10.0	dry	dry	dry	inaccessible
Methylene chloride	75-09-2	5	-	-	<1.0	dry	dry	dry	inaccessible
Tetrachloroethene	127-18-4	5	2.7	-	<1.0	dry	dry	dry	inaccessible
Toluene	108-88-3	100	-	2.1	<1.0	dry	dry	dry	inaccessible
trans-1,2-Dichloroethene	156-60-5	100	-	-	<1.0	dry	dry	dry	inaccessible
Trichloroethene	79-01-6	5	74	44	<1.0	dry	dry	dry	inaccessible
Vinyl chloride	75-01-4	2	3.8	2.2	<1.0	dry	dry	dry	inaccessible
Xylene (Total)	1330-20-7	10000	-	-	<3.0	dry	dry	dry	inaccessible

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

HW-1  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result				
<b>Lab</b>		8/31/2011	12/16/2011	3/27/2012	6/26/2012	9/27/2012
Ethane	74-84-0	<0.010	dry	dry	dry	inaccessible
Ethene	74-85-1	<0.010	dry	dry	dry	inaccessible
Methane	74-82-8	<0.010	dry	dry	dry	inaccessible
Iron	7439-89-6	<0.050	dry	dry	dry	inaccessible
Manganese	7439-96-5	<0.005	dry	dry	dry	inaccessible
Alkalinity		174	dry	dry	dry	inaccessible
Total Dissolved Solids		289	dry	dry	dry	inaccessible
pH		7.6	dry	dry	dry	inaccessible
Chloride	16887-00-6	1.3	dry	dry	dry	inaccessible
Sulfate	14808-79-8	19	dry	dry	dry	inaccessible
Nitrogen, Nitrate		<0.10	dry	dry	dry	inaccessible
Nitrogen, Nitrite		<0.10	dry	dry	dry	inaccessible
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	dry	dry	dry	inaccessible
Total Organic Carbon	7440-44-0	<1.0	dry	dry	dry	inaccessible
Carbon Dioxide	124-38-9	249	dry	dry	dry	inaccessible
<b>Field</b>						
Dissolved Iron		0	dry	dry	dry	inaccessible
Dissolved Manganese		0	dry	dry	dry	inaccessible
DO		250	dry	dry	dry	inaccessible
pH		7.1	dry	dry	dry	inaccessible
ORP		-100.7	dry	dry	dry	inaccessible
Temperature		23.59	dry	dry	dry	inaccessible

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

Wells covered with gravel by property owner rendering in accessible.

HW-2  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Date & Result	Sample Date & Result	Date & Result			
			7/26/2000	8/31/2011	12/29/2011	3/27/2012	6/26/2012	9/27/2012
1,1,1-Trichloroethane	71-55-6	200	61	<1.0	<1.0	inaccessible	inaccessible	dry
1,2-Dichloroethane	107-06-2	5	-	<1.0	<1.0	inaccessible	inaccessible	dry
Acetone	67-64-1	12000	-	<10.0	<10.0	inaccessible	inaccessible	dry
Benzene	71-43-2	5	6.8	<1.0	<1.0	inaccessible	inaccessible	dry
Carbon disulfide	75-15-0	720	-	<5.0	<5.0	inaccessible	inaccessible	dry
Chlorobenzene	108-90-7	100	3.5	<1.0	<1.0	inaccessible	inaccessible	dry
Chloroform	67-66-3	80	2.2	<1.0	<1.0	inaccessible	inaccessible	dry
cis-1,2-Dichloroethene	156-59-2	70	1100	<1.0	<1.0	inaccessible	inaccessible	dry
Ethylbenzene	100-41-4	700	-	<1.0	<1.0	inaccessible	inaccessible	dry
Iodomethane	74-88-4	No RSL	-	<10.0	<10.0	inaccessible	inaccessible	dry
Methylene chloride	75-09-2	5	-	<1.0	<1.0	inaccessible	inaccessible	dry
Tetrachloroethene	127-18-4	5	9.6	<1.0	<1.0	inaccessible	inaccessible	dry
Toluene	108-88-3	100	-	<1.0	<1.0	inaccessible	inaccessible	dry
trans-1,2-Dichloroethene	156-60-5	100	-	<1.0	<1.0	inaccessible	inaccessible	dry
Trichloroethene	79-01-6	5	16000	<1.0	<1.0	inaccessible	inaccessible	dry
Vinyl chloride	75-01-4	2	1.1	<1.0	<1.0	inaccessible	inaccessible	dry
Xylene (Total)	1330-20-7	10000	-	<3.0	<3.0	inaccessible	inaccessible	dry

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

HW-2  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result				
<b>Lab</b>		8/31/2011	12/29/2011	3/27/2012	6/26/2012	9/27/2012
Ethane	74-84-0	<0.010	<0.010	inaccessible	inaccessible	dry
Ethene	74-85-1	<0.010	<0.010	inaccessible	inaccessible	dry
Methane	74-82-8	<0.010	<0.010	inaccessible	inaccessible	dry
Iron	7439-89-6	<0.050	<0.050	inaccessible	inaccessible	dry
Manganese	7439-96-5	<0.005	<0.005	inaccessible	inaccessible	dry
Alkalinity		277	<20	inaccessible	inaccessible	dry
Total Dissolved Solids		293	<5	inaccessible	inaccessible	dry
pH		7.4	5.5	inaccessible	inaccessible	dry
Chloride	16887-00-6	1.3	<1.0	inaccessible	inaccessible	dry
Sulfate	14808-79-8	18.6	<1.0	inaccessible	inaccessible	dry
Nitrogen, Nitrate		<0.10	<0.10	inaccessible	inaccessible	dry
Nitrogen, Nitrite		<0.10	<0.10	inaccessible	inaccessible	dry
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	inaccessible	inaccessible	dry
Total Organic Carbon	7440-44-0	<1.0	<0.50	inaccessible	inaccessible	dry
Carbon Dioxide	124-38-9	252	43.2	inaccessible	inaccessible	dry
<b>Field</b>						
Dissolved Iron		0	0	inaccessible	inaccessible	dry
Dissolved Manganese		0	0	inaccessible	inaccessible	dry
DO		1000	480	inaccessible	inaccessible	dry
pH		7.11	7.01	inaccessible	inaccessible	dry
ORP		-101.3	-103.6	inaccessible	inaccessible	dry
Temperature		7.11	21.82	inaccessible	inaccessible	dry

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

VW-1  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample													
			Date & Result													
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0	7/13	
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Acetone	67-64-1	12000	-	-	-	-	-	-	<200	<50.0	<50.0	<50.0	11.4	<10.0		
Benzene	71-43-2	5	15000	15000	380	210	200	310	-	<20.0	9.7	<5.0	<5.0	<1.0	3.5	303
Carbon disulfide	75-15-0	720	-	-	-	-	-	-	<100	<25.0	<25.0	<25.0	<5.0	<5.0		
Chlorobenzene	108-90-7	100	4800	4500	2200	2100	1400	2100	1740	434	588	618	586	921	1520	
Chloroform	67-66-3	80	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
cis-1,2-Dichloroethene	156-59-2	70	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Ethylbenzene	100-41-4	700	8	6.4	-	-	3.6	4.4	-	<20.0	<5.0	<5.0	<1.0	<1.0		
Iodomethane	74-88-4	No RSL	-	-	-	-	-	14	-	<200	<50.0	<50.0	<50.0	<10.0	<10.0	
Methylene chloride	75-09-2	5	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Tetrachloroethene	127-18-4	5	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Toluene	108-88-3	100	5.4	4.3	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0	2-3	
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0	2-8	
Trichloroethene	79-01-6	5	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Vinyl chloride	75-01-4	2	-	-	-	-	-	-	<20.0	<5.0	<5.0	<5.0	<1.0	<1.0		
Xylene (Total)	1330-20-7	10000	24	19	-	-	-	-	-	<60.0	<15.0	<15.0	<15.0	<3.0	<3.0	

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

VW-1  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result									
<b>Lab</b>		4/27/2004	8/23/2004	11/19/2004	1/7/2005	9/22/2011	12/20/2011	3/29/2012	7/11/2012	9/27/2012	2/5/2013
Ethane	74-84-0	0.016	0.0081	-	0.0094	0.0195	<0.010	0.0132	0.0096	<0.0062	0.0078
Ethene	74-85-1	0.00062	-	0.0074	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	13	4.9	0.14	4.5	13.2	4.16	7.1	4.19	3.52	3.99
Iron	7439-89-6	-	-	-	-	-	24.3	35.3	26.6	11.1	15.4
Manganese	7439-96-5	-	-	-	-	-	1.56	0.793	0.718	0.512	0.609
Alkalinity		1100	1100	990	980	970	630	670	679	502	570
Total Dissolved Solids		-	-	-	-	1030	1390	916	932	620	723
pH		-	-	-	-	7	7	7	7.1	7.6	7.5
Chloride	16887-00-6	78	68	63	59	40.6	19.4	12.6	9.4	6.2	9.3
Sulfate	14808-79-8	-	-	-	36	1.2	490	189	103	20.5	14.1
Nitrogen, Nitrate		-	0.091	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	14	14	14	12	13.1	30.7	13.7	11.2	11.1	19.1
Carbon Dioxide	124-38-9	140	140	83	60	1050	680	724	706	467	538
<b>Field</b>											
Dissolved Iron		-	-	-	-	0	0	0	0.6	-	0
Dissolved Manganese		-	-	-	-	0	0	0	0	-	0
DO		-	-	-	-	470	0.94	0.02	3.58	0.36	0.08
pH		-	-	-	-	7.15	6.86	7.13	7.02	7.05	7.02
ORP		-	-	-	-	-178.1	5.7	-144.3	-161.1	-126.0	-125.0
Temperature		-	-	-	-	18.29	14.22	18.32	19.49	20.71	19.32

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

VW-2  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result										
			8/1/2000	4/27/2004	8/20/2004	11/19/2004	1/11/2005	9/23/2011	12/20/2011	3/29/2012	7/2/2012	9/27/2012	2/5/2013
1,1,1-Trichloroethane	71-55-6	200		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Acetone	67-64-1	12000		-	-	-	-	12.7	<50.0	<50.0	<50.0	66	<10.0
Benzene	71-43-2	5	35	25	6	27	-	2.6	32.5	10	13.8	16.3	16.3
Carbon disulfide	75-15-0	720		7.9	-	-	-	<5.0	<25.0	<25.0	<25.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	970	1300	1400	930	410	711	606	708	676	923	80.7
Chloroform	67-66-3	80		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Ethylbenzene	100-41-4	700		-	-	-	-	<1.0	<5.0	<5.0	<5.0	1.4	<1.0
Iodomethane	74-88-4	No RSL		-	-	-	-	<10.0	<50.0	<50.0	<50.0	<10.0	<10.0
Methylene chloride	75-09-2	5		-	-	-	-	<1.0	<5.0	5.2	<5.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Toluene	108-88-3	100	1.9	-	-	-	-	<1.0	<5.0	<5.0	<5.0	1.6	<1.0
trans-1,2-Dichloroethene	156-60-5	100		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Trichloroethene	79-01-6	5	0.7	-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Vinyl chloride	75-01-4	2		-	-	-	-	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000		-	-	-	-	<3.0	<15.0	<15.0	<15.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

7/13

163

VW-2  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result									
<b>Lab</b>		4/27/2004	8/20/2004	1/19/2005	1/11/2005	9/23/2011	12/20/2011	3/29/2012	7/2/2012	9/27/2012	2/5/2013
Ethane	74-84-0	0.0029	-	-	-	0.0124	<0.010	<0.0124	0.0068	0.0091	<0.0062
Ethene	74-85-1	-	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	2.1	0.4	0.18	0.37	7.25	4.68	0.718	2.36	4.0	0.013
Iron	7439-89-6	-	-	-	-	-	5.22	6.14	46.2	5.6	0.607
Manganese	7439-96-5	-	-	-	-	-	0.766	1.1	2.35	1.02	0.0481
Alkalinity		990	1000	740	570	900	905	975	983	979	1070
Total Dissolved Solids		-	-	-	-	924	1490	1260	1160	1180	1860
pH		-	-	-	-	7	7.5	7.2	7.4	7.6	6.8
Chloride	16887-00-6	74	73	22	17	24.8	37.6	24.1	31.9	37.0	13.1
Sulfate	14808-79-8	27	-	-	110	1.7	111	175	2	1.1	385
Nitrogen, Nitrate		-	0.044	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	3.0
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	3.1
Total Organic Carbon	7440-44-0	10	13	6.6	5.7	14	27.1	13.6	11.9	13.2	87
Carbon Dioxide	124-38-9	180	130	100	71	972	854	981	944	911	325
<b>Field</b>											
Dissolved Iron		-	-	-	-	0	0	0	0.4	-	0.0
Dissolved Manganese		-	-	-	-	0	0	0	0.2	-	0.0
DO		-	-	-	-	340	1.53	0.02	1.89	0.87	0.3
pH		-	-	-	-	7.21	7.63	7.15	7.06	7.00	7.00
ORP		-	-	-	-	-77.3	243.5	-121.7	-15.78	-127.6	-122.1
Temperature		-	-	-	-	19.27	13.94	19.3	31.43	20.94	20.01

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"-" indicates no data

VW-2B  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result										
			7/25/2000	4/26/2004	8/19/2004	11/19/2004	1/11/2005	9/22/2011	12/21/2011	3/29/2012	7/2/2012	10/4/2012	10/4/2012
1,1,1-Trichloroethane	71-55-6	200	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	-	3.3	3.4	3.1	3.7	<1.0	<1.0	<1.0	<1.0	1.3	1.3
Carbon disulfide	75-15-0	720	-	1.6	-	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	-	20	38	9.8	11	<1.0	<1.0	<1.0	4.8	19.4	19.7
Chloroform	67-66-3	80	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	230	13	7.7	4.6	2.8	<1.0	<1.0	<1.0	1.2	1.9	1.7
Ethylbenzene	100-41-4	700	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	-	-	-	-	-	<1.0	6.5	<1.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	-	-	-	-	-	<1.0	2.5	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	21	180	230	200	140	<1.0	<1.0	<1.0	36.8	89.1	90.9
Xylene (Total)	1330-20-7	10000	-	-	-	-	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

VW-2B  
Former Bulk Chemical Storage Area

Constituent	CAS	Sample Date & Result									
<b>Lab</b>		4/26/2004	8/19/2004	11/19/2004	1/11/2005	9/22/2011	12/21/2011	4/3/2012	7/2/2012	10/4/2012	10/4/2012
Ethane	74-84-0	0.00076	-	-	-	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Ethene	74-85-1	0.01	0.0099	0.0035	0.002	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062
Methane	74-82-8	0.16	0.11	0.069	0.12	<0.010	<0.010	<0.0066	0.289	0.411	0.573
Iron	7439-89-6	-	-	-	-	-	<0.050	<0.050	50.3	29.2	25.6
Manganese	7439-96-5	-	-	-	-	-	<0.005	<0.005	2.57	1.61	1.49
Alkalinity		550	540	560	540	372	190	254	576	433	426
Total Dissolved Solids		-	-	-	-	820	632	703	1090	1150	1130
pH		-	-	-	-	7.6	8.2	7.8	7.2	7.0	6.9
Chloride	16887-00-6	68	70	87	74	59.9	60	58.8	116	178	179
Sulfate	14808-79-8	380	370	350	370	238	226	221	267	282	283
Nitrogen, Nitrate		-	0.033	-	0.031	1.9	1.8	2	<0.10	<0.10	<0.10
Nitrogen, Nitrite		-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		-	-	-	-	1.9	1.8	2	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	2.1	2.5	3.4	2.7	2.7	0.78	2.6	3.5	2.8	2.7
Carbon Dioxide	124-38-9	92	130	97	93	346	170	232	579	467	483
<b>Field</b>											
Dissolved Iron		-	-	-	-	-	-	-	0.2	-	-
Dissolved Manganese		-	-	-	-	-	-	-	0.2	-	-
DO		-	-	-	-	240	8200	6.12	1.55	1.55	1.55
pH		-	-	-	-	7.01	7.83	7.72	6.97	6.97	6.97
ORP		-	-	-	-	142.3	172.3	161	-106	-106	-106
Temperature		-	-	-	-	18.53	18.81	19.59	32.6	32.6	32.6

Lab samples are reported in mg/l

pH is reported in standard units

< indicates result below the reported detection limit

"\_" indicates no data

FBCSA-MW-5  
Former Bulk Chemical Storage Area

Constituent	CAS	MCL*	Sample Date & Result							
1,1,1-Trichloroethane	71-55-6	200	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	107-06-2	5	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Acetone	67-64-1	12000	<10.0	10.9	<50.0	<50.0	<50.0	<10.0	<10.0	<10.0
Benzene	71-43-2	5	<1.0	<1.0	<5.0	<5.0	<5.0	5.5	7.8	1.2
Carbon disulfide	75-15-0	720	<5.0	<5.0	<25.0	<25.0	<25.0	<5.0	<5.0	<5.0
Chlorobenzene	108-90-7	100	183	182	279	253	178	214	209	409
Chloroform	67-66-3	80	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	156-59-2	70	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Ethylbenzene	100-41-4	700	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Iodomethane	74-88-4	No RSL	<10.0	<10.0	<50.0	<50.0	<50.0	<10.0	<10.0	<10.0
Methylene chloride	75-09-2	5	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Tetrachloroethene	127-18-4	5	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Toluene	108-88-3	100	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	156-60-5	100	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Trichloroethene	79-01-6	5	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Vinyl chloride	75-01-4	2	<1.0	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0
Xylene (Total)	1330-20-7	10000	<3.0	<3.0	<15.0	<15.0	<15.0	<3.0	<3.0	<3.0

\*Results and MCL reported in ug/L. If no MCL, Tap Water RSL is used

Results highlighted in gray exceed MCL, excluding events with detection limits above the MCL

"<" indicates result below the reported detection limit

"-" indicates no data

34

FBCSA-MW-5  
Former Bulk Chemical Storage Area

Contingent	CAS	Sample Date & Result							
<b>Lab</b>		9/22/2011	9/22/2011	12/20/2011	3/29/2012	7/11/2012	9/27/2012	9/27/2012	2/5/2013
Ethane	74-84-0	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	0.0069
Ethene	74-85-1	<0.010	<0.010	<0.010	<0.0124	<0.0062	<0.0062	<0.0062	<0.0062
Methane	74-82-8	1.55	1.1	1.32	1.72	2.09	2.56	1.31	2.11
Iron	7439-89-6	-	-	6.92	10.2	17	8.13	7.38	13.6
Manganese	7439-96-5	-	-	6.87	5.49	5.77	3.35	3.48	7.98
Alkalinity		728	770	720	1020	950	947	921	888
Total Dissolved Solids		961	983	311	1160	1160	1100	1100	1220
pH		6.9	6.9	7.2	7.1	7.1	7.1	7.2	7.2
Chloride	16887-00-6	7.9	8.9	13.8	12.9	13.7	18.3	18.9	15.4
Sulfate	14808-79-8	190	175	111	108	66.9	62.0	57.2	86.0
Nitrogen, Nitrate		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrite		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrogen, NO <sub>2</sub> +NO <sub>3</sub>		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Organic Carbon	7440-44-0	7.7	8.6	11	11.6	9.2	10.8	11.5	11.9
Carbon Dioxide	124-38-9	824	871	724	1060	987	984	927	894
<b>Field</b>									
Dissolved Iron		0	-	0	0	0	-	-	0
Dissolved Manganese		0	-	0	0	0	-	-	0
DO		570	-	1.66	0.61	6.76	0.23	0.23	0.23
pH		6.93	-	7.01	6.89	6.91	6.79	6.79	6.81
ORP		-91.7	-	81.1	-96.9	-130.3	-61.1	-61.1	-55.3
Temperature		18.23	-	15.63	18.2	19.30	18.70	18.70	18.49

Lab samples are reported in mg/l

pH is reported in standard units

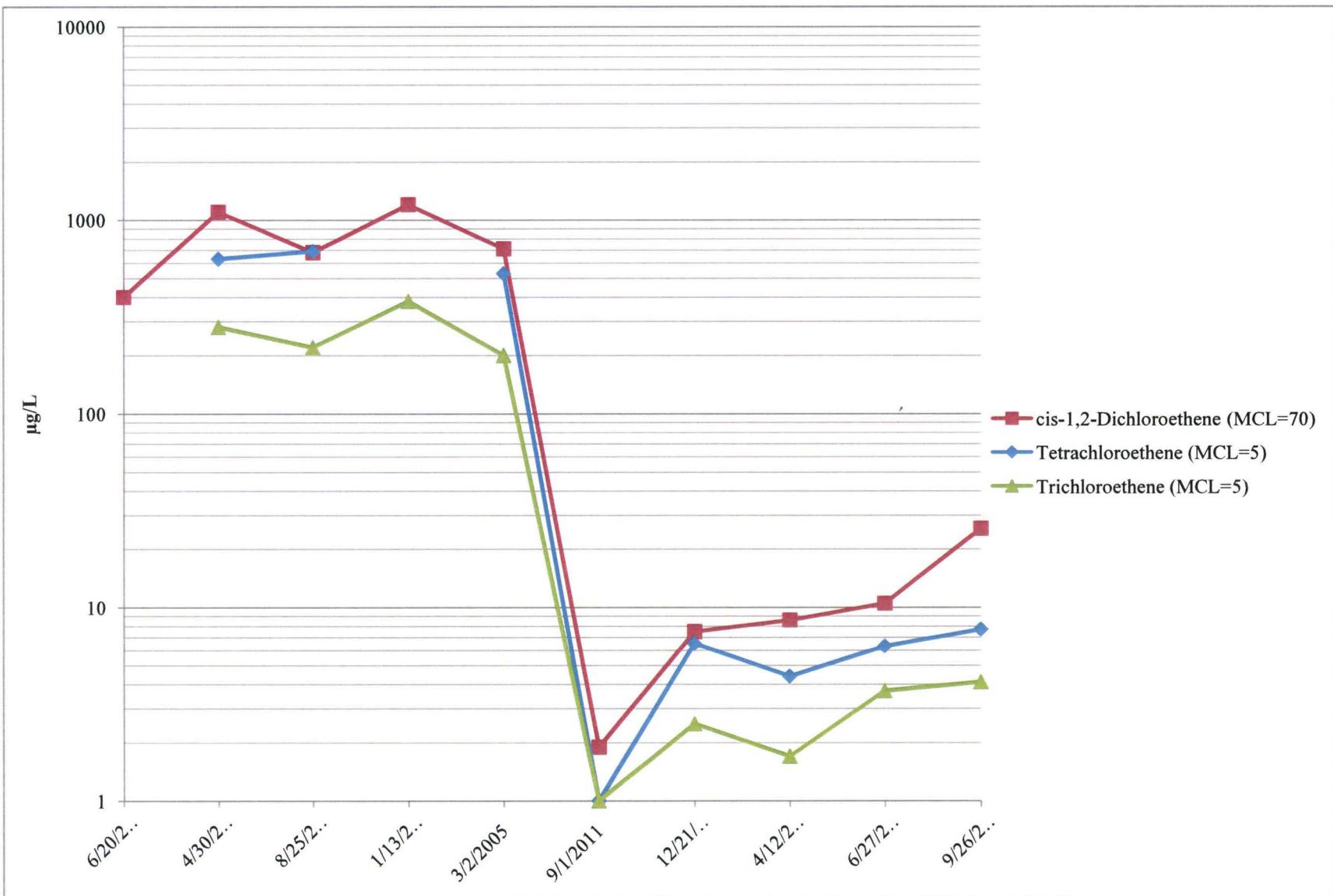
< indicates result below the reported detection limit

"-" indicates no data

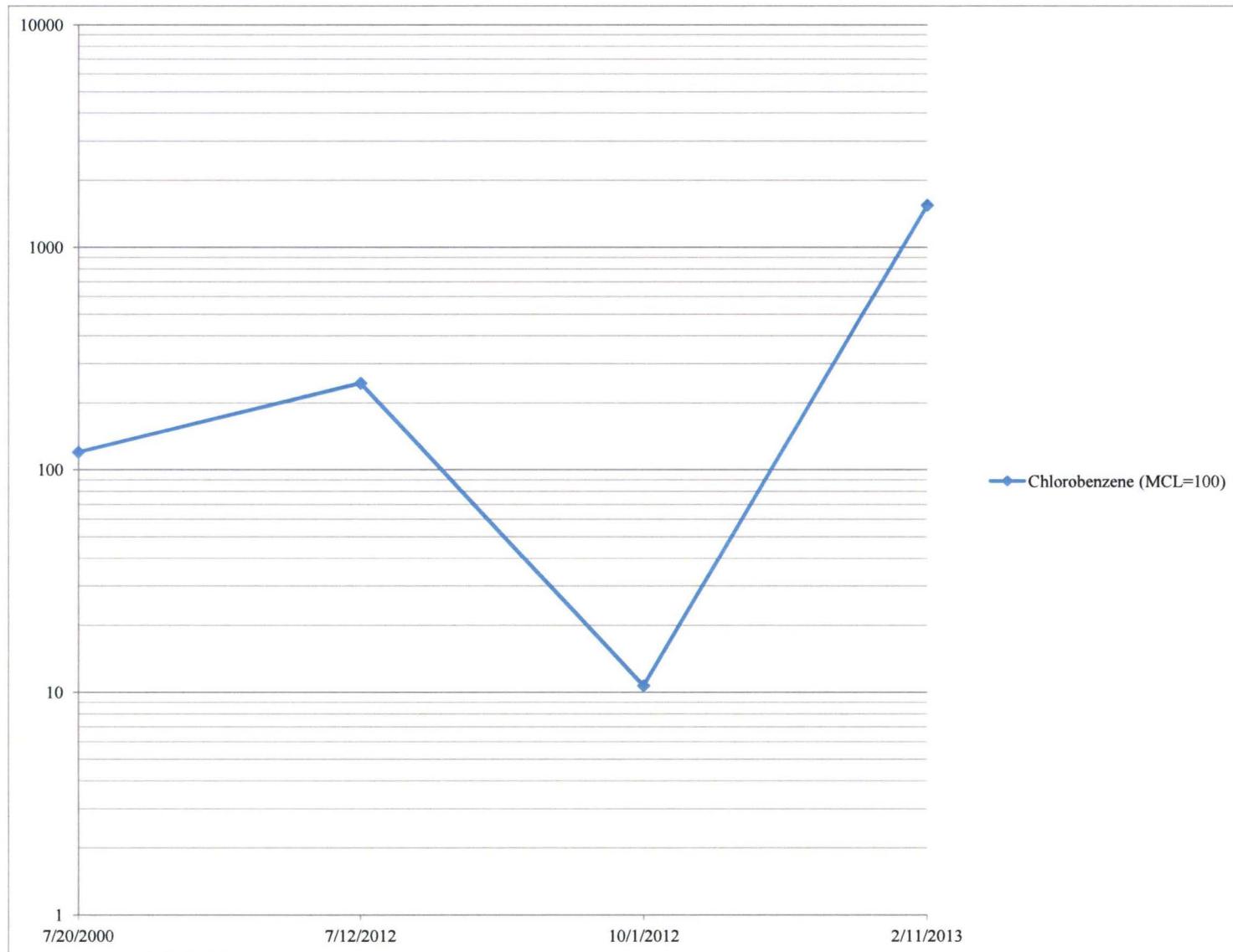
## **GRAPHS**

**FF AREA WELL GRAPHS**

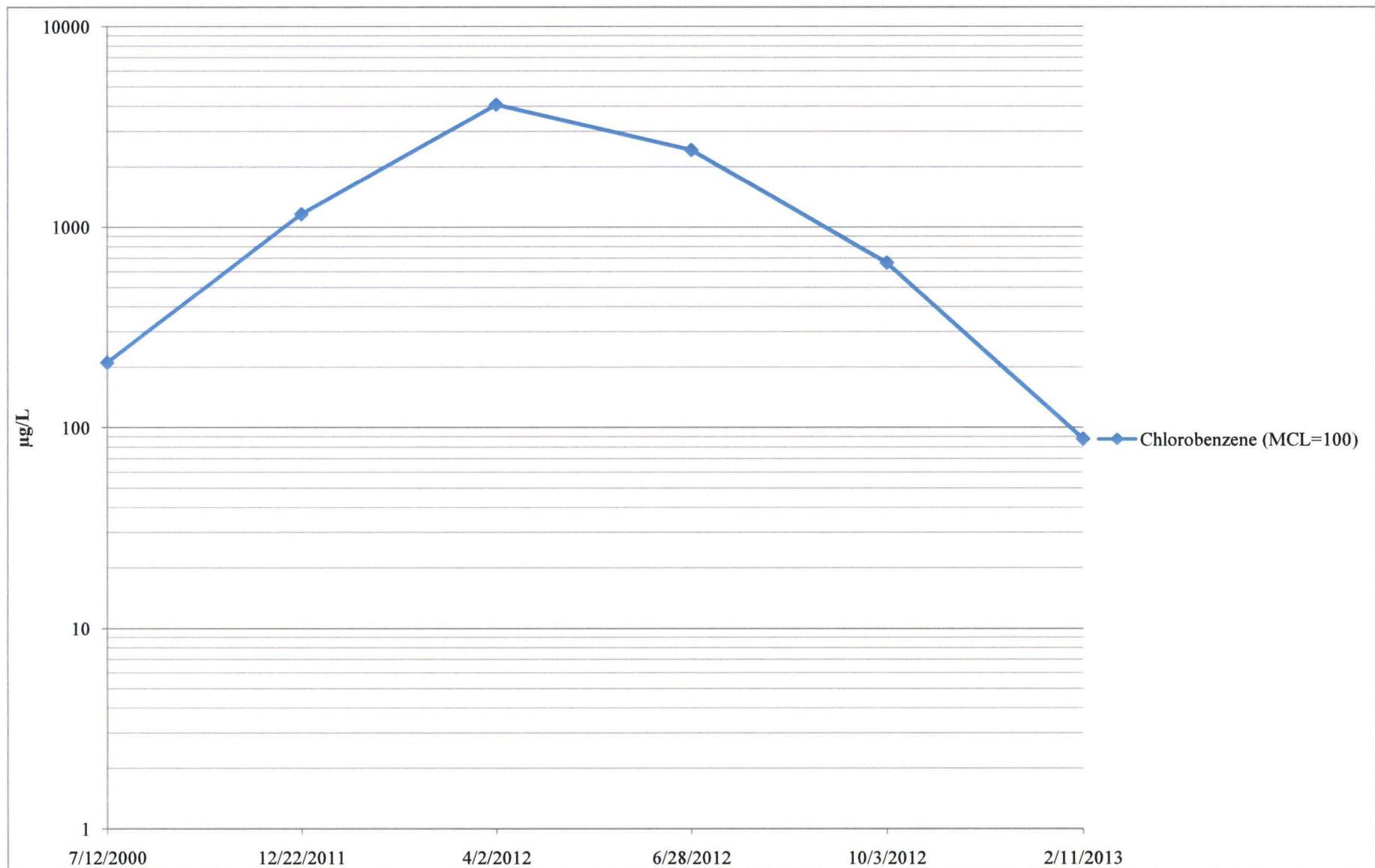
MW-3  
Former FF Building Area



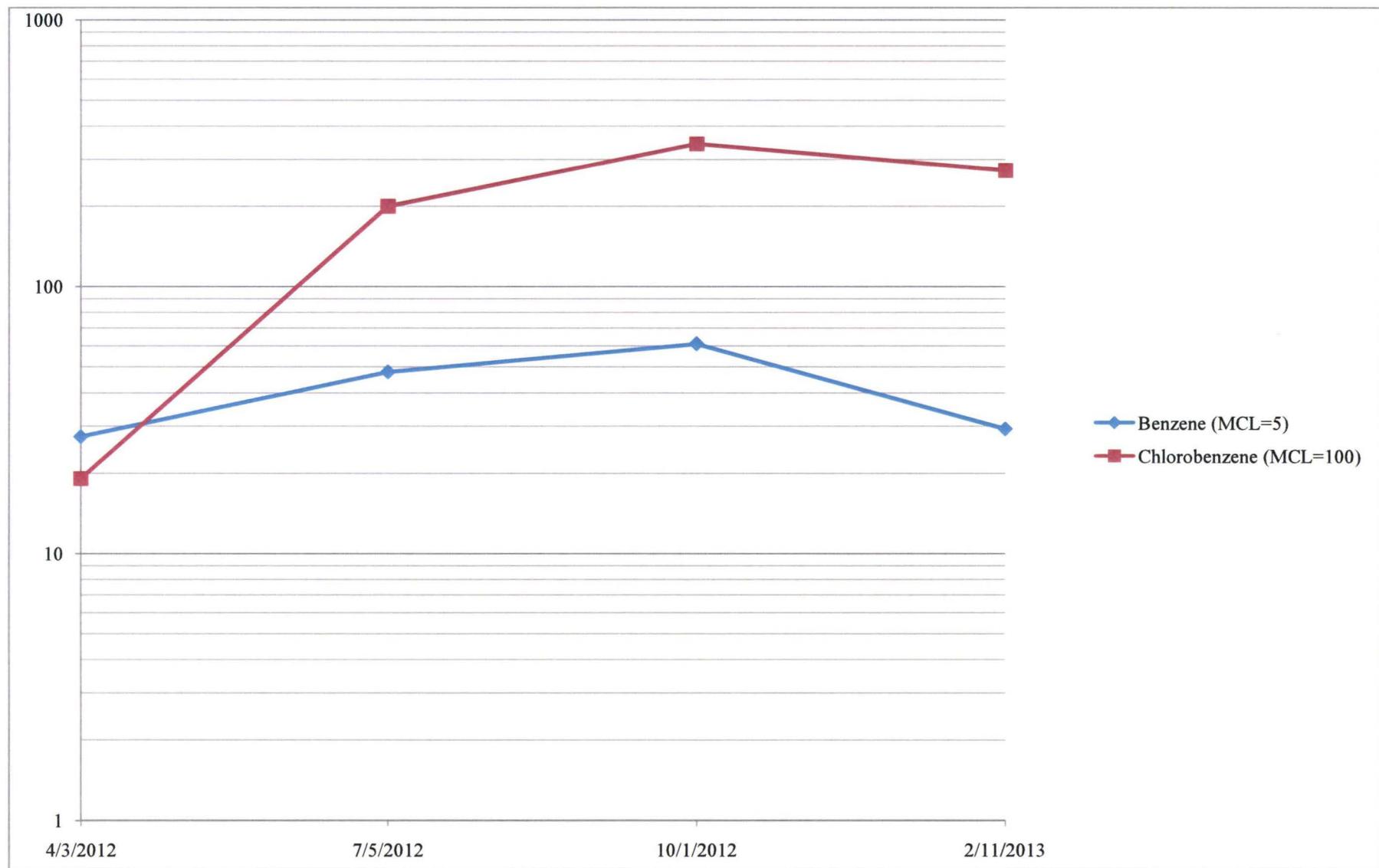
MW-28B  
Former FF Building Area



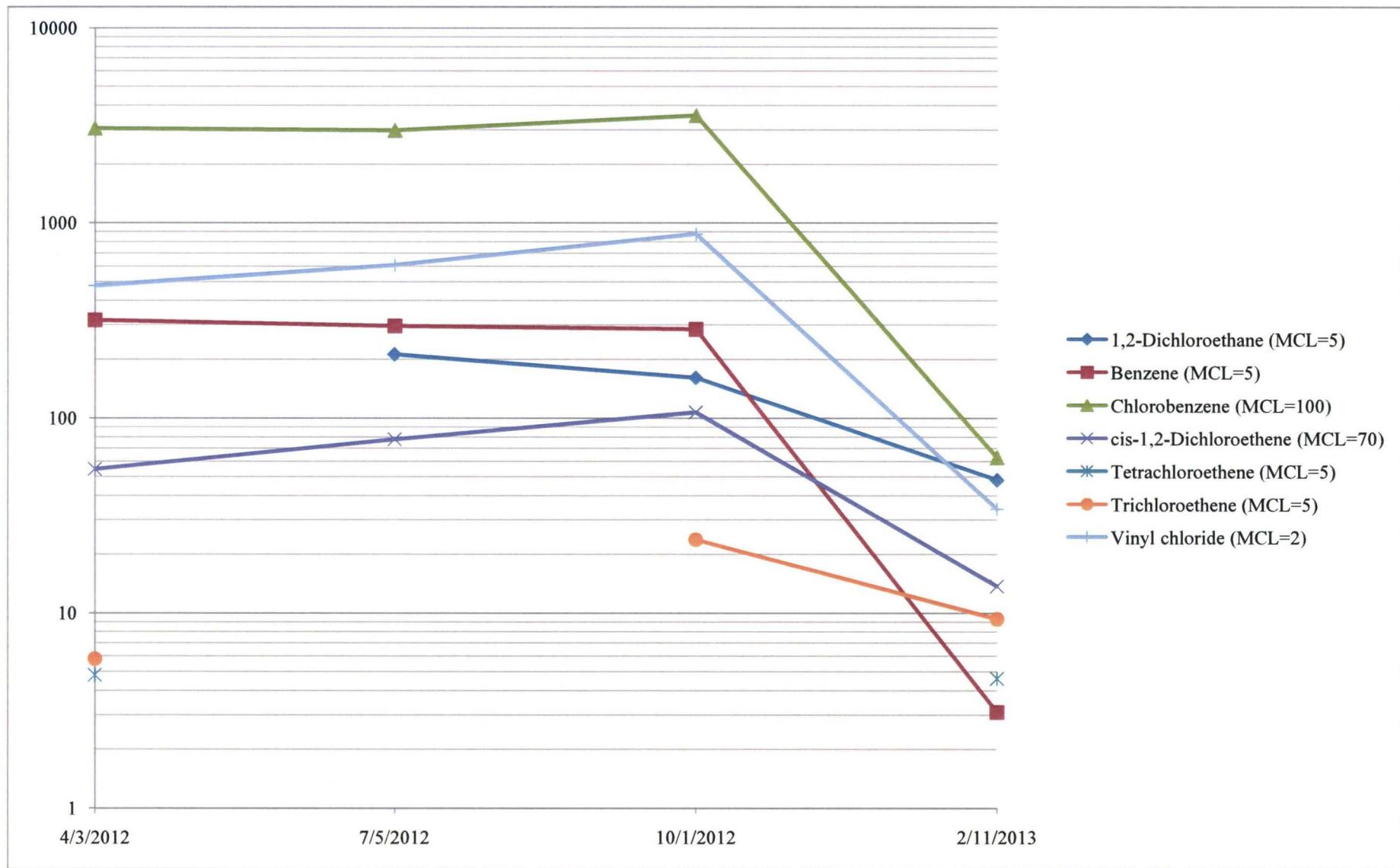
MW-30B  
Former FF Building Area



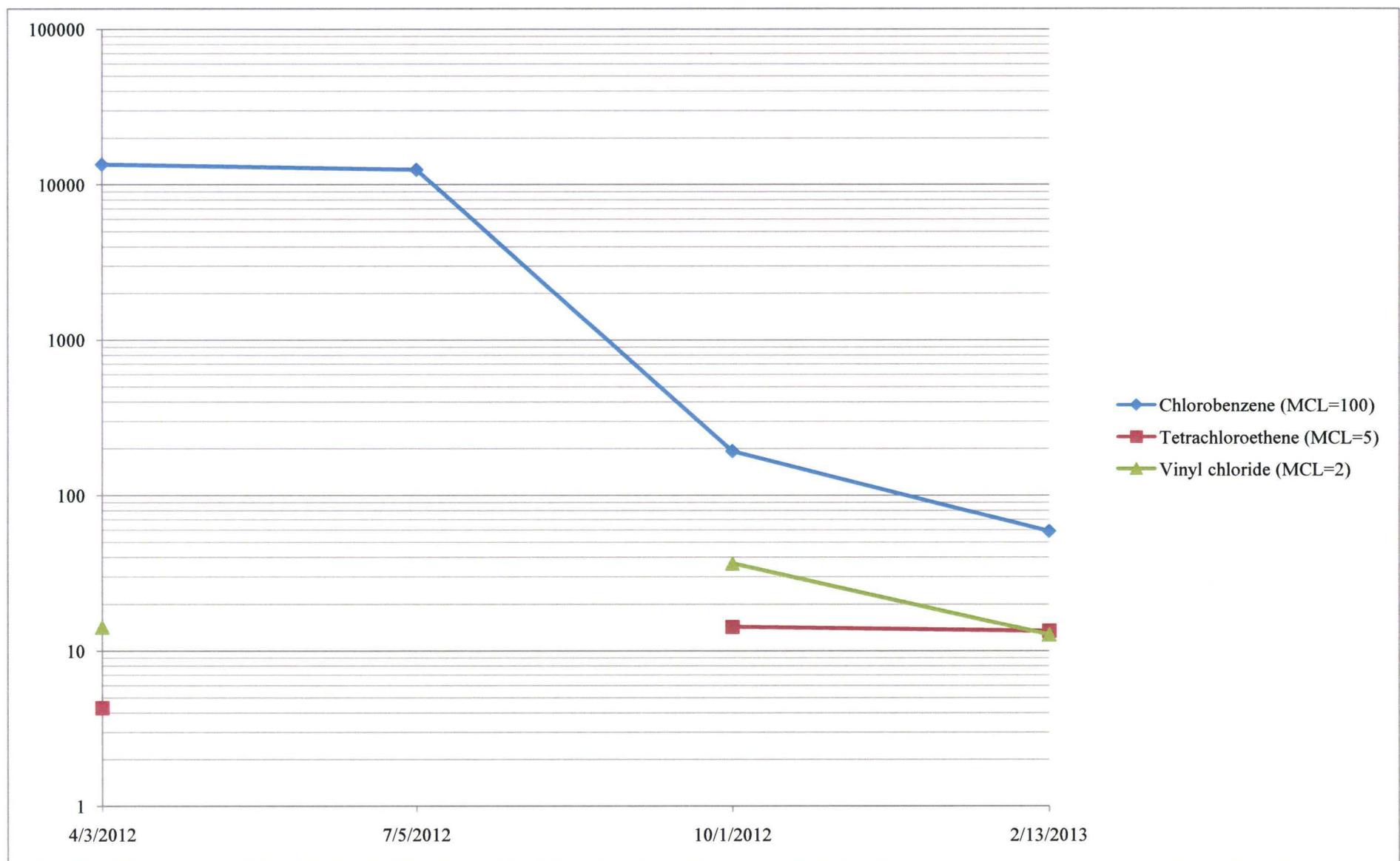
MW-36A  
Former FF Building Area



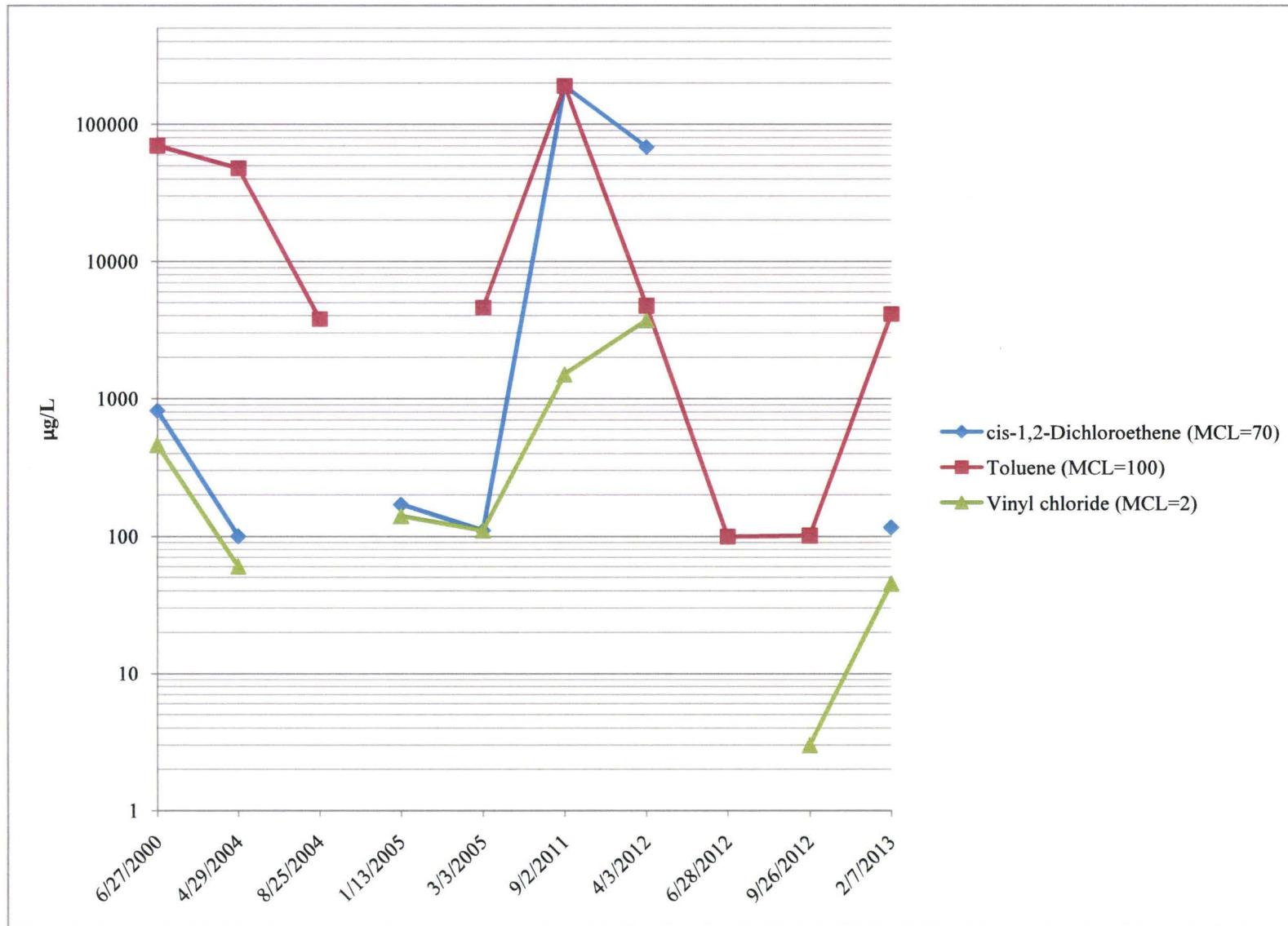
MW-36B  
Former FF Building Area



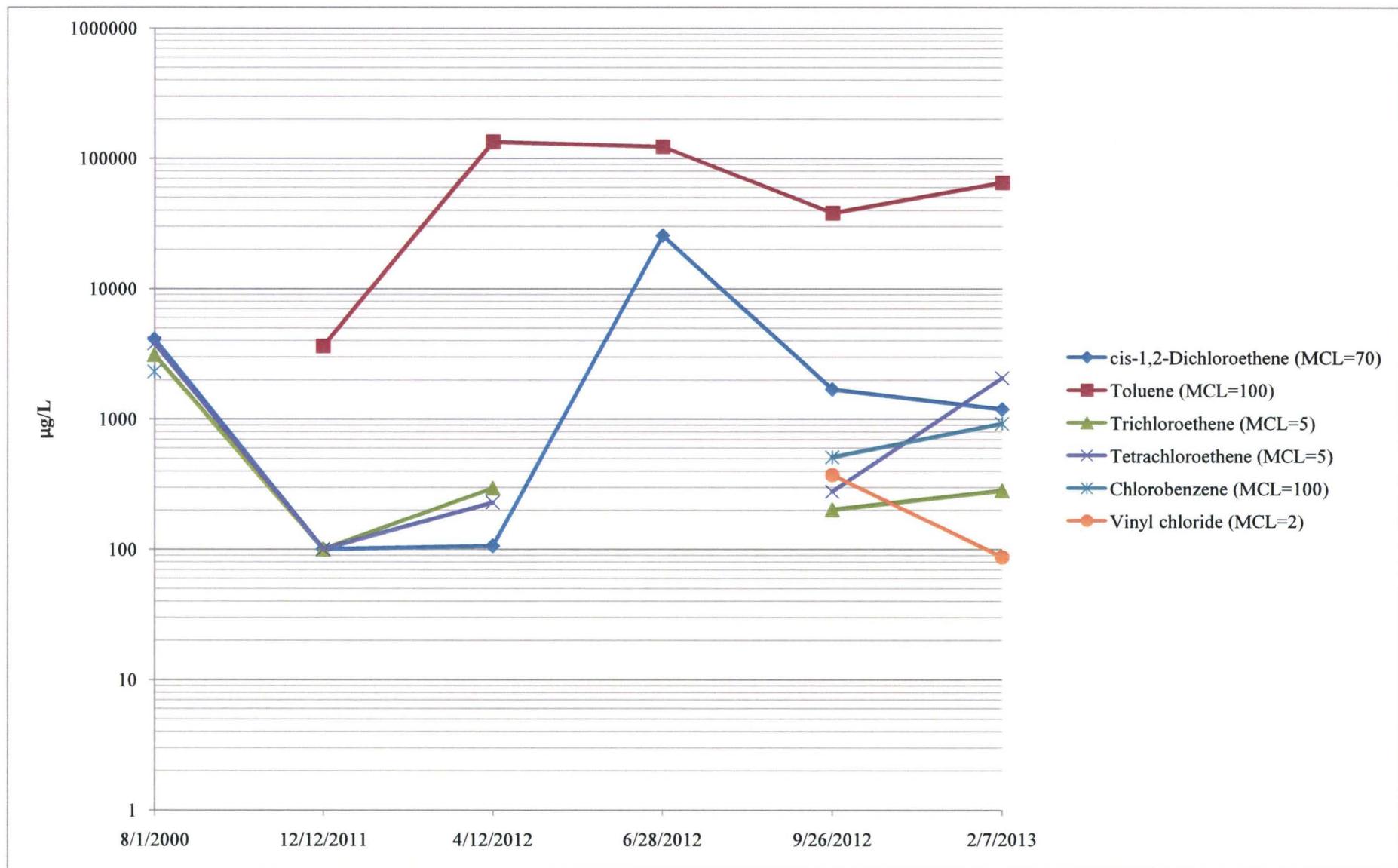
MW-38B  
Former FF Building Area



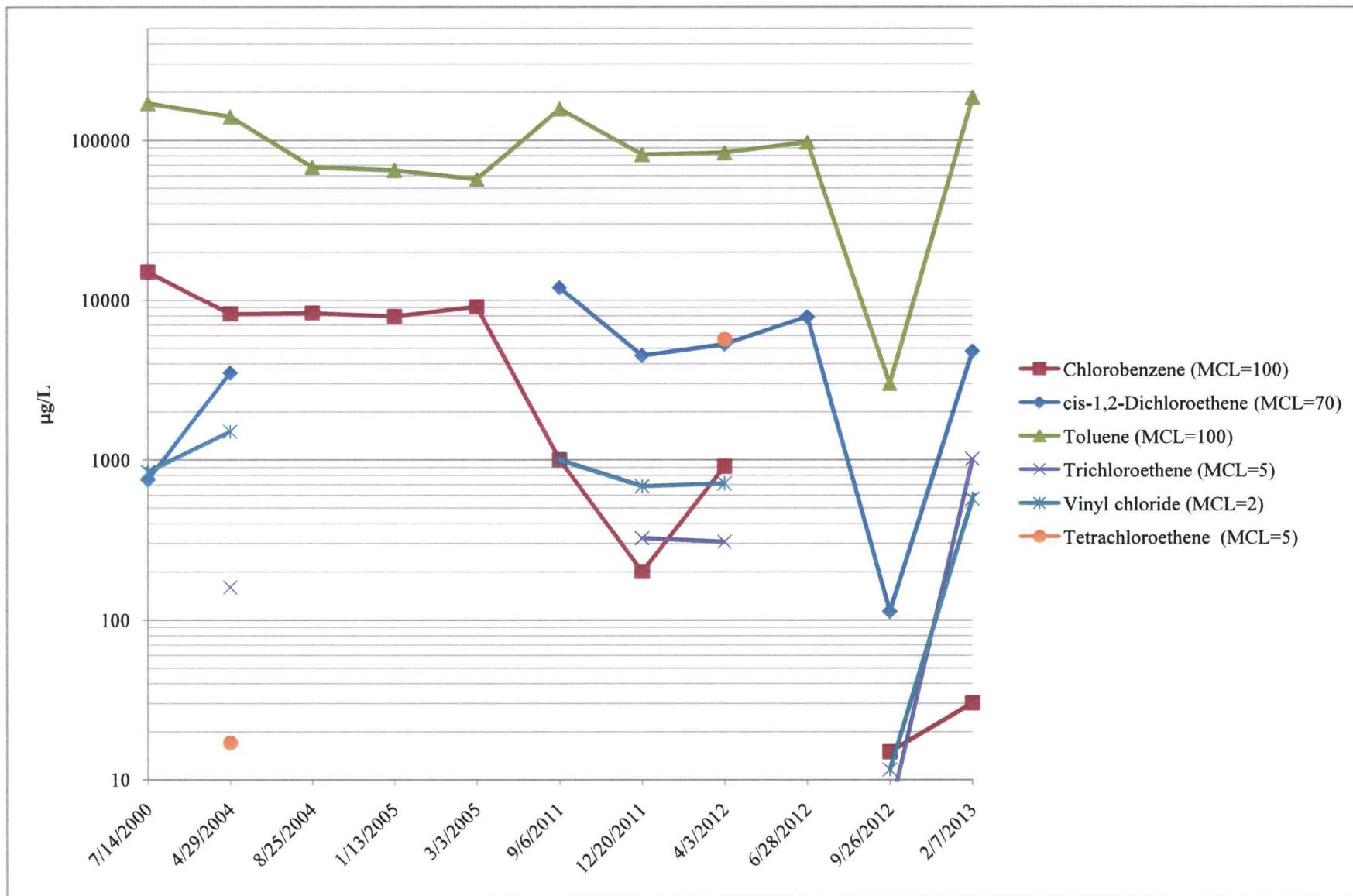
LPZ-2  
Former FF Building Area



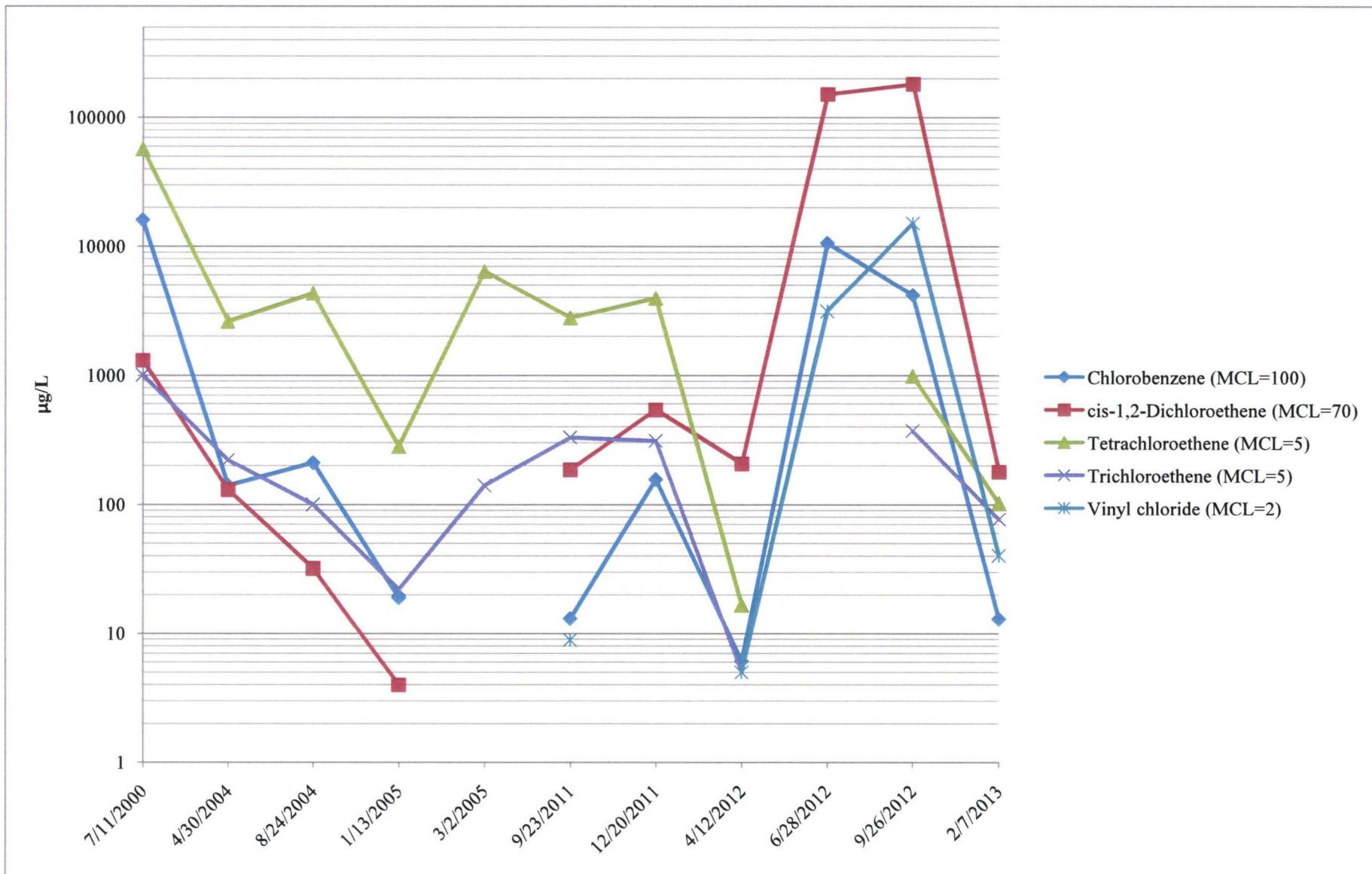
LPZ-4  
Former FF Building Area



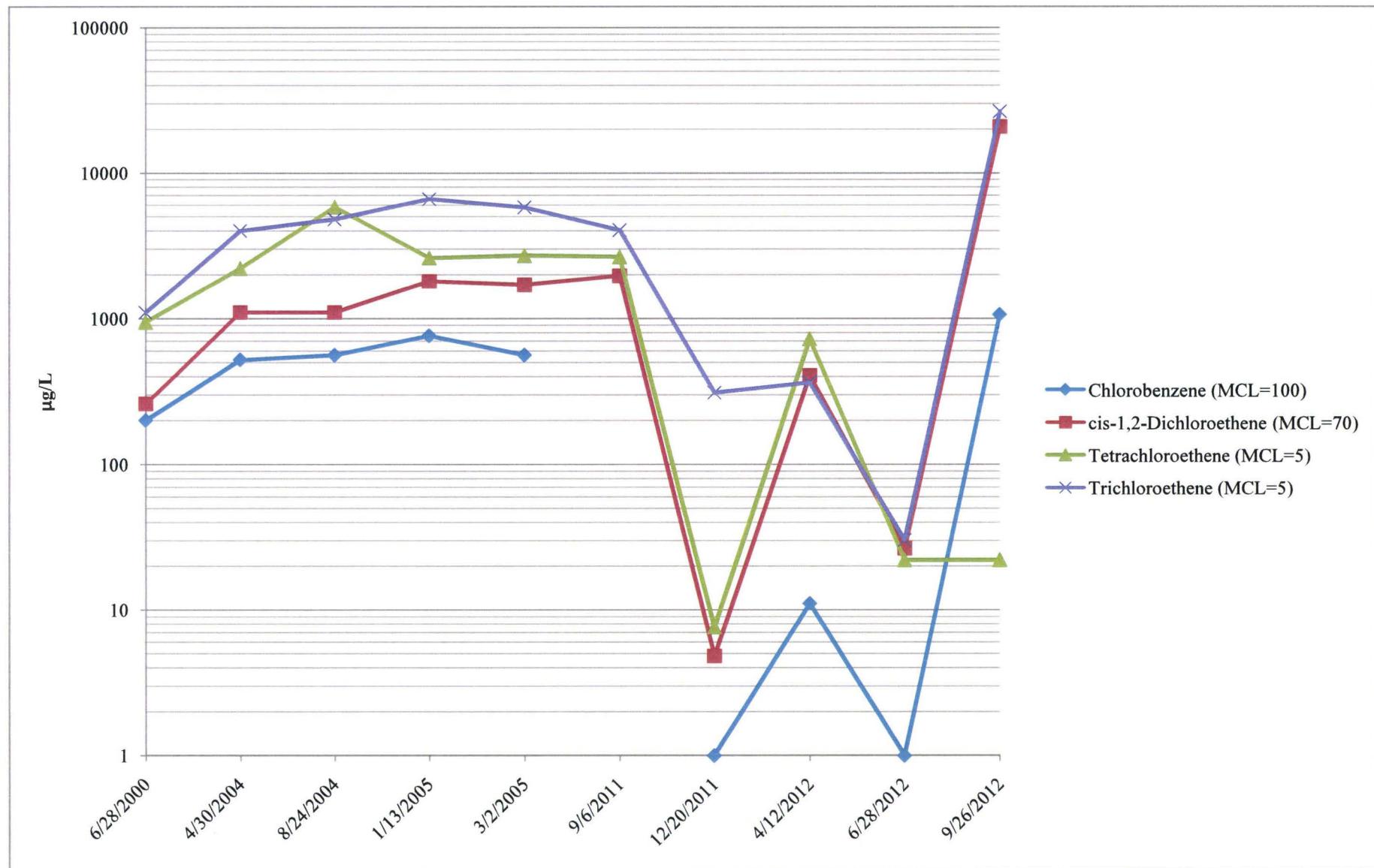
LPZ-5  
Former FF Building Area



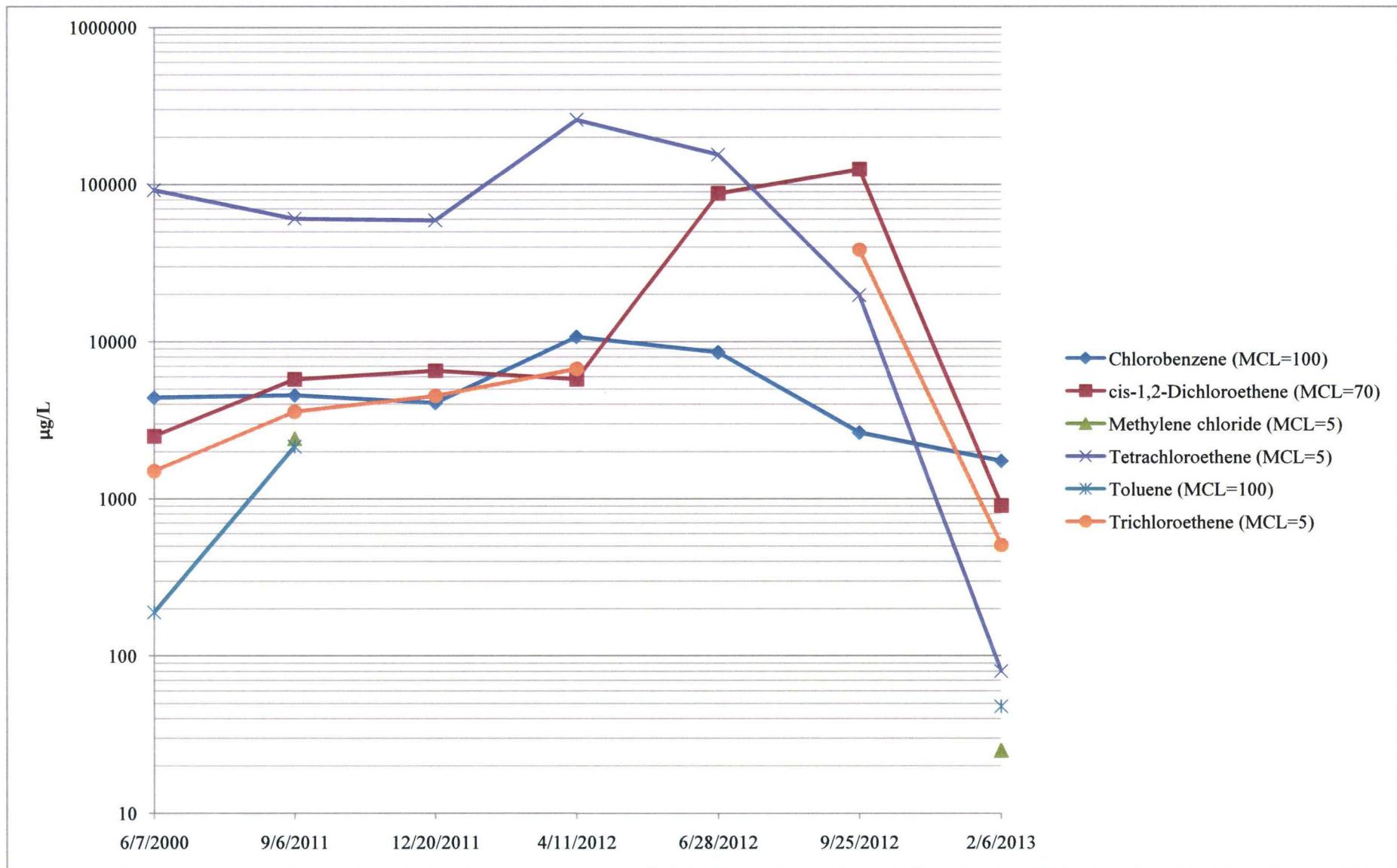
REC-1  
Former FF Building Area



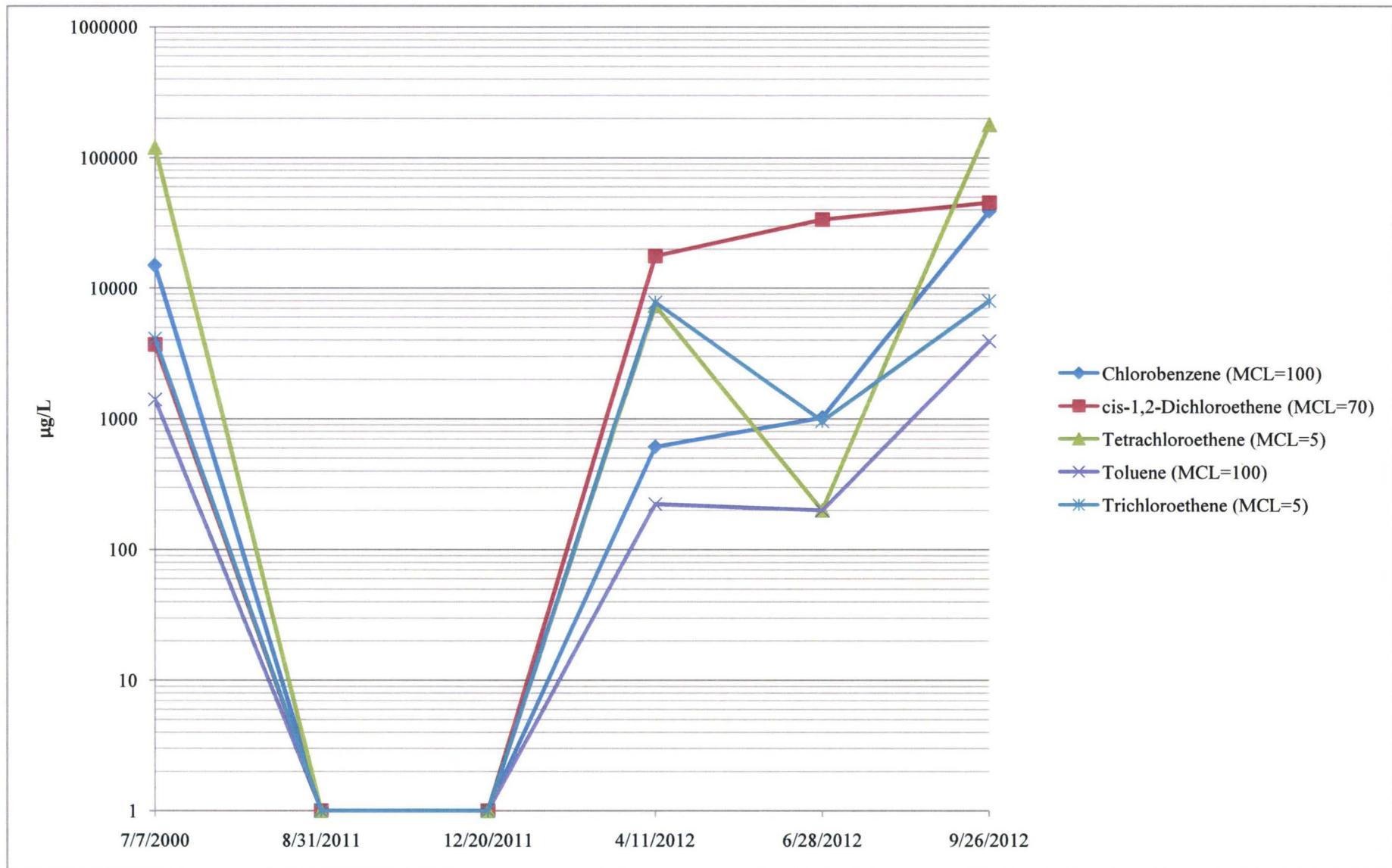
REC-4  
Former FF Building Area



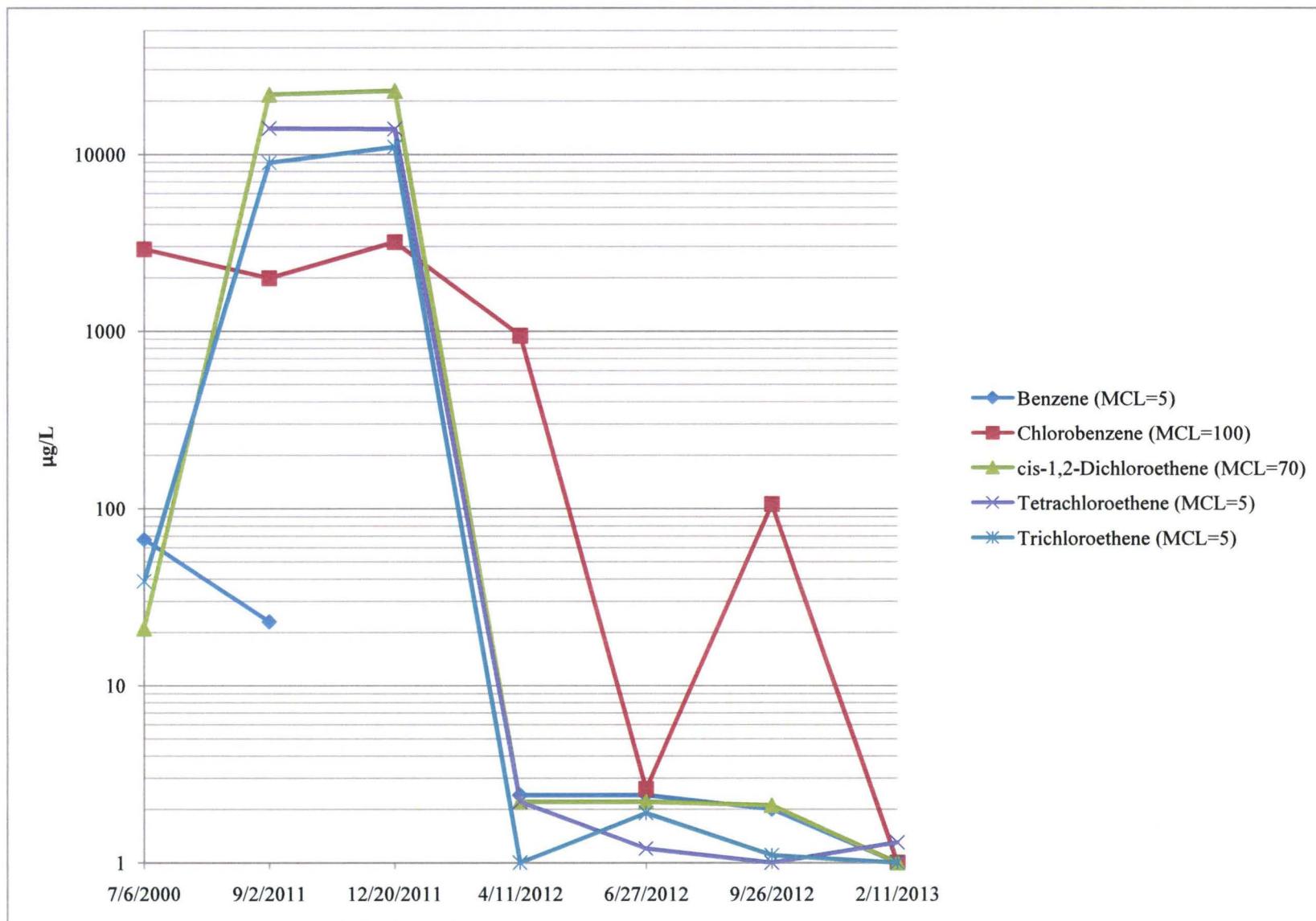
OBW-1  
Former FF Building Area



OBW-2  
Former FF Building Area

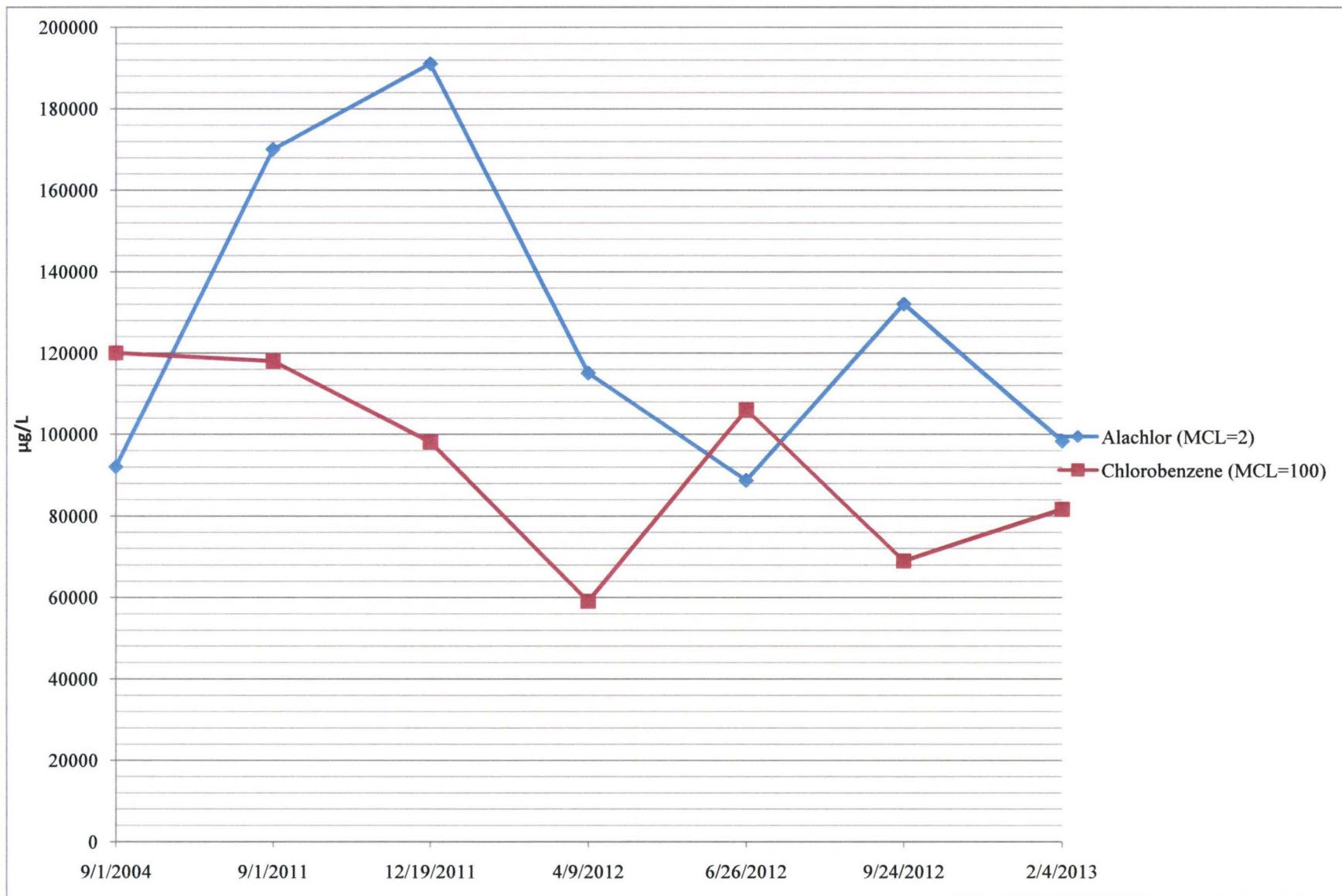


OBW-3  
Former FF Building Area



**FORMER APA WELL GRAPHS**

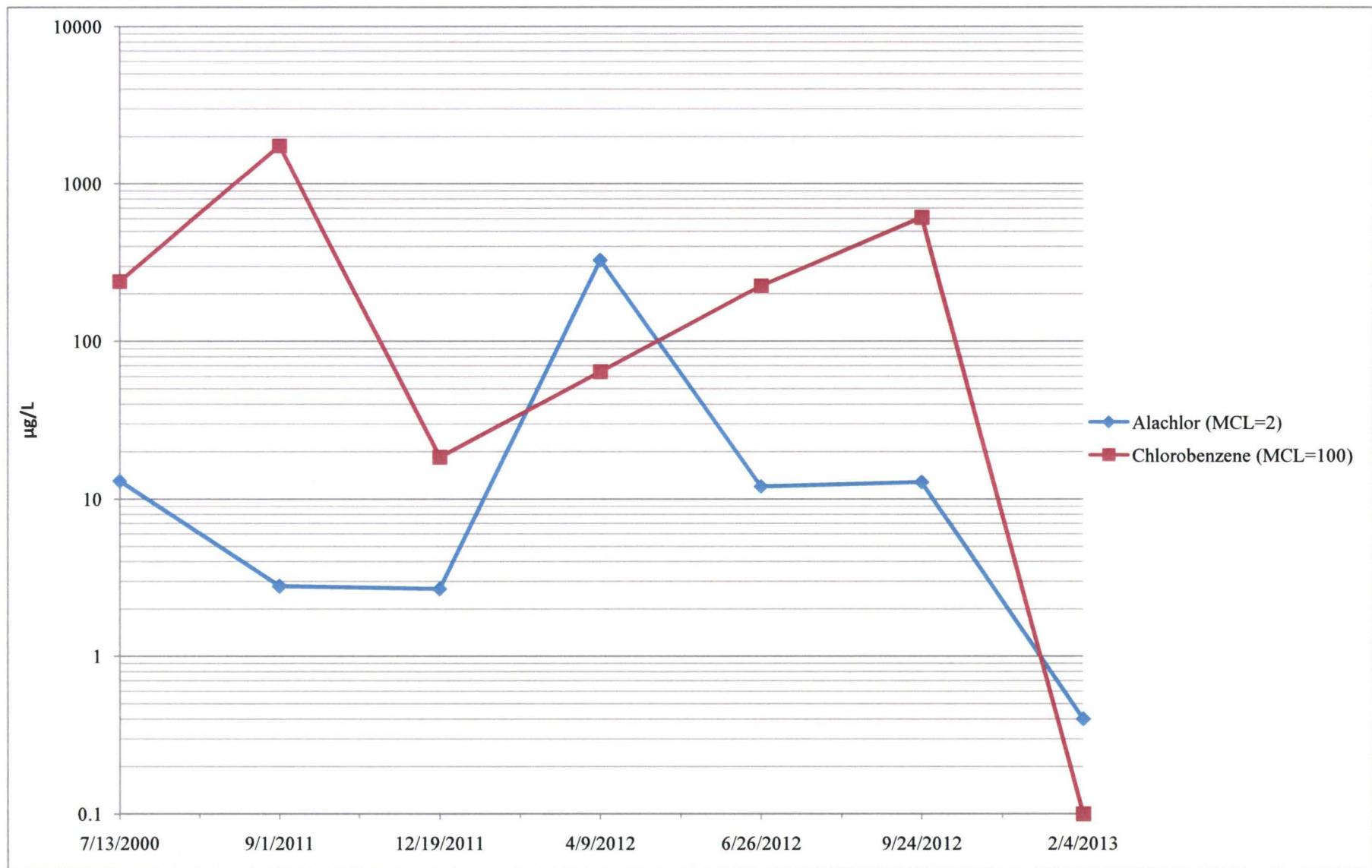
GM-1  
Former Acetanilides Production Area (APA)



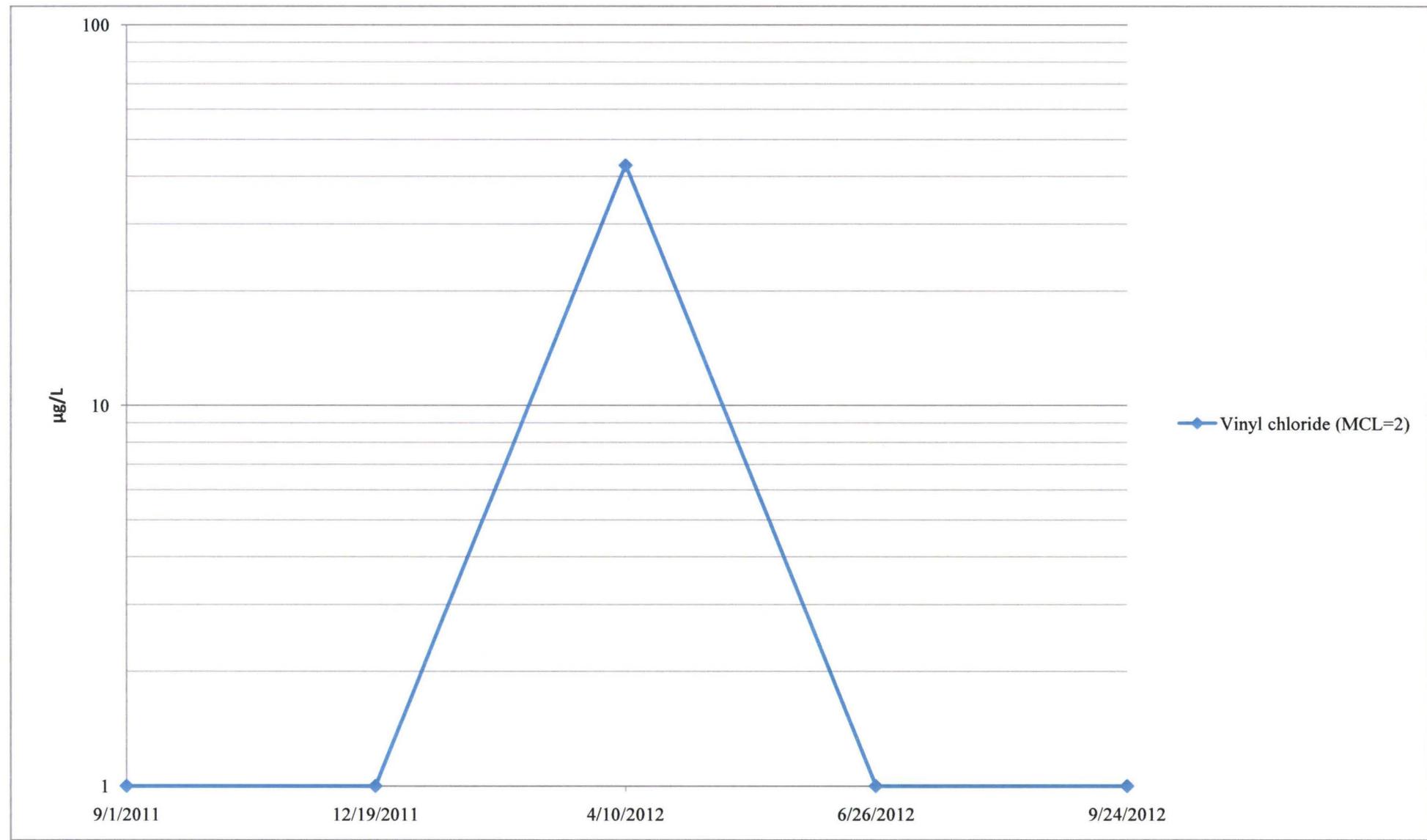
GM-2  
Former Acetanilides Production Area (APA)



MW-4  
Former Acetanilides Production Area (APA)



MW-9  
Former Acetanilides Production Area (APA)



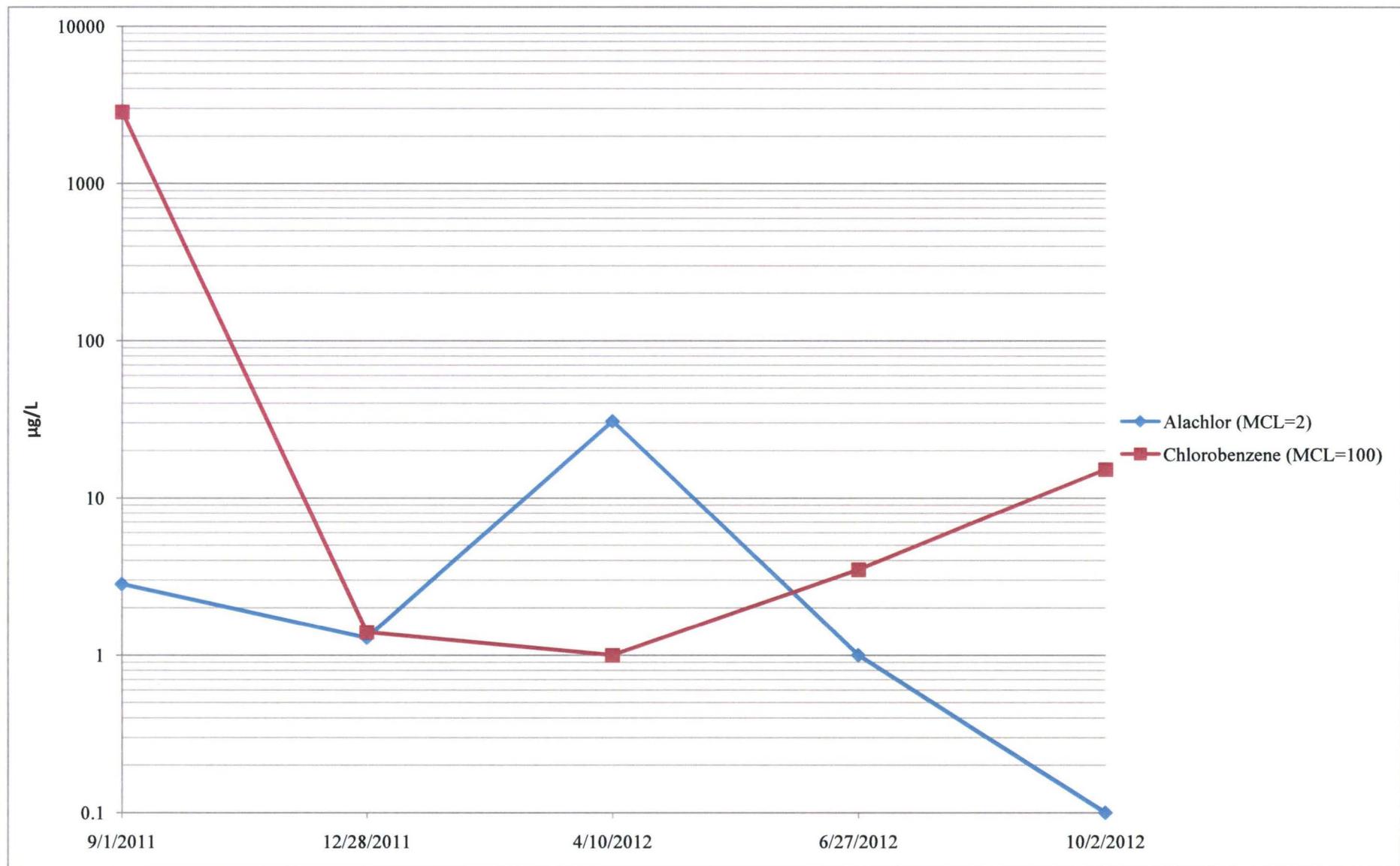
MW-11A  
Former Acetanilides Production Area (APA)



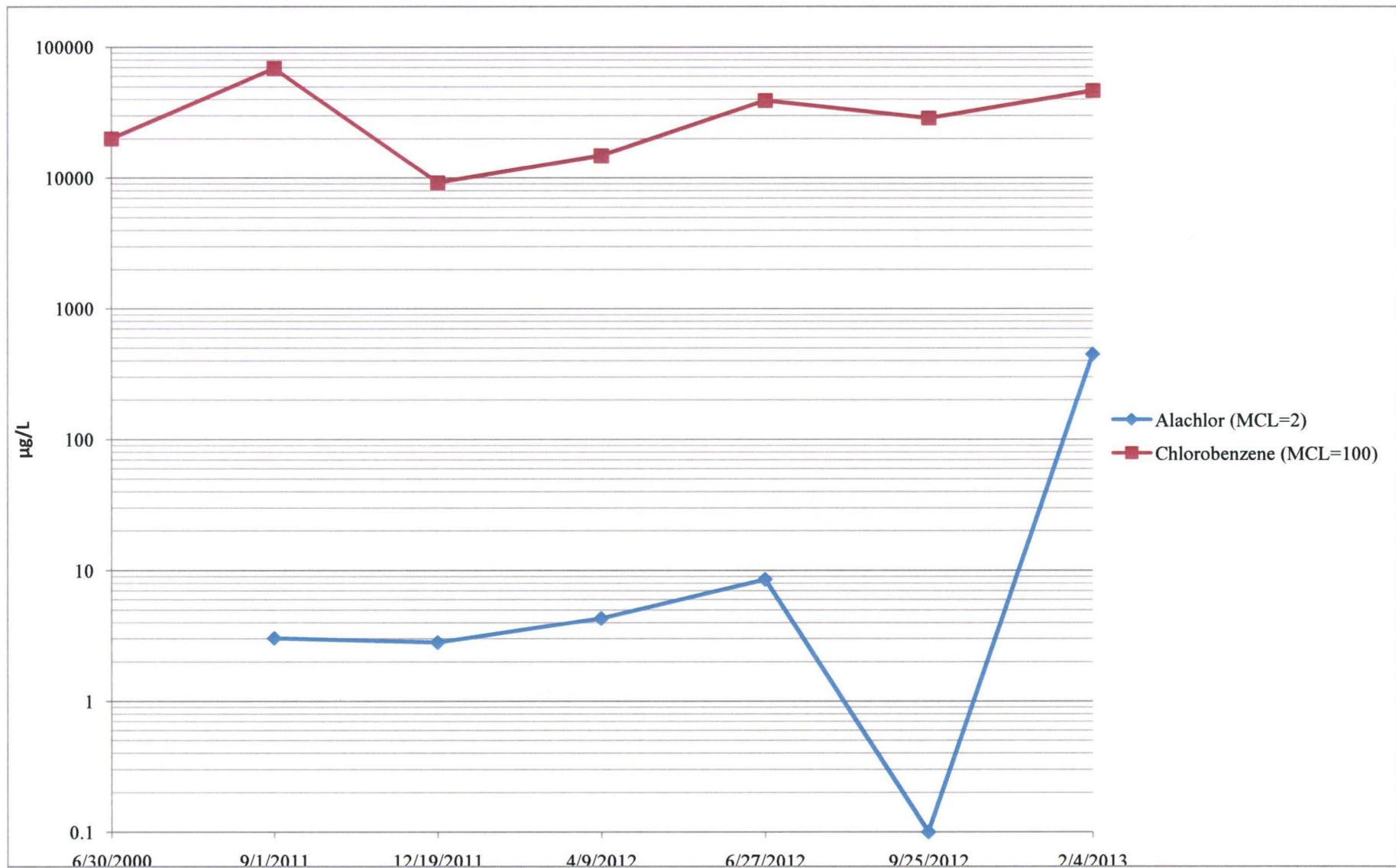
MW-13  
Former Acetanilides Production Area (APA)



MW-15  
Former Acetanilides Production Area (APA)



MW-19  
Former Acetanilides Production Area (APA)

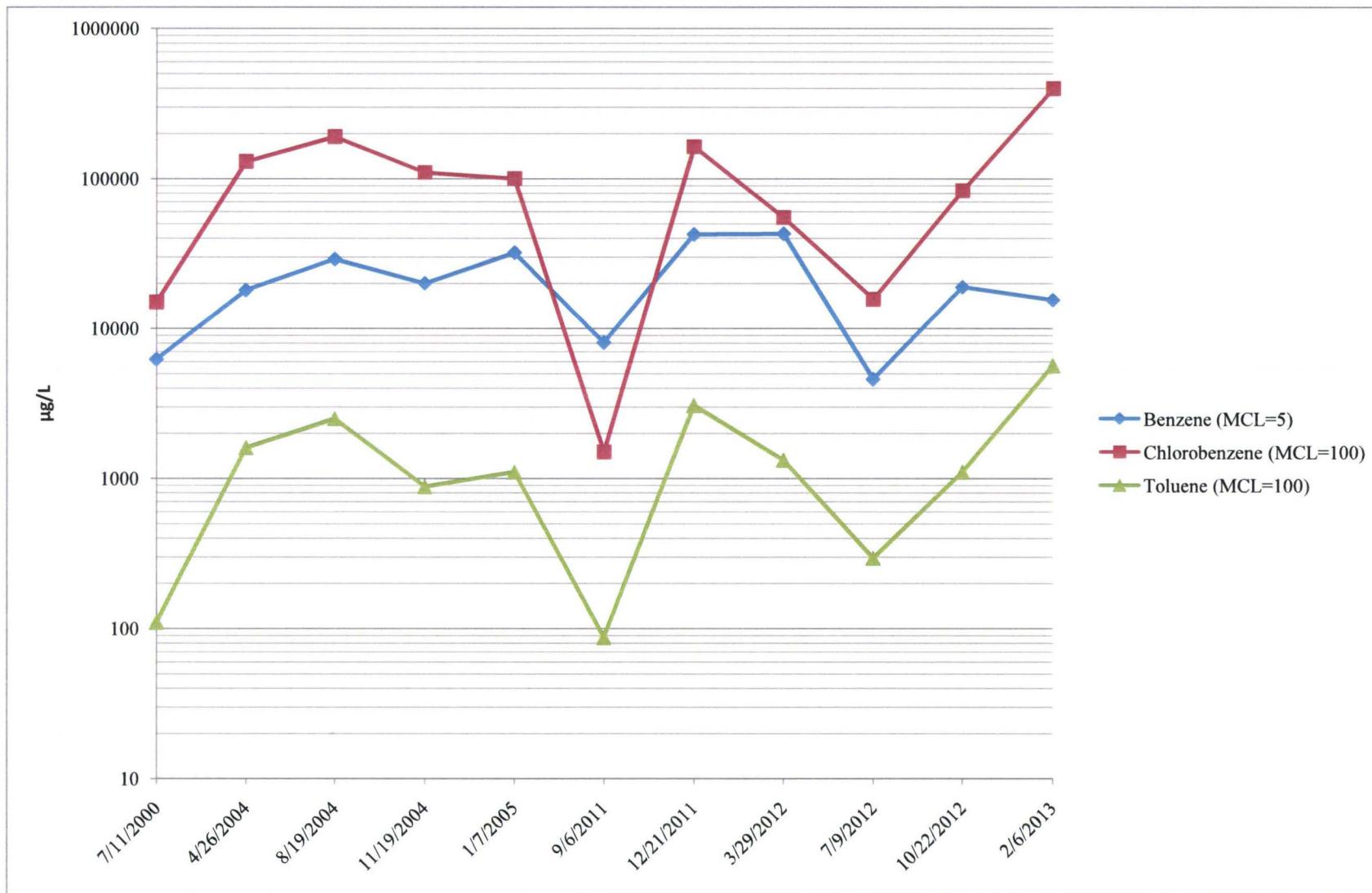


**FORMER BULK CHEMICAL STORAGE AREA WELL GRAPHS**

MW-24A  
Former Bulk Chemical Storage Area



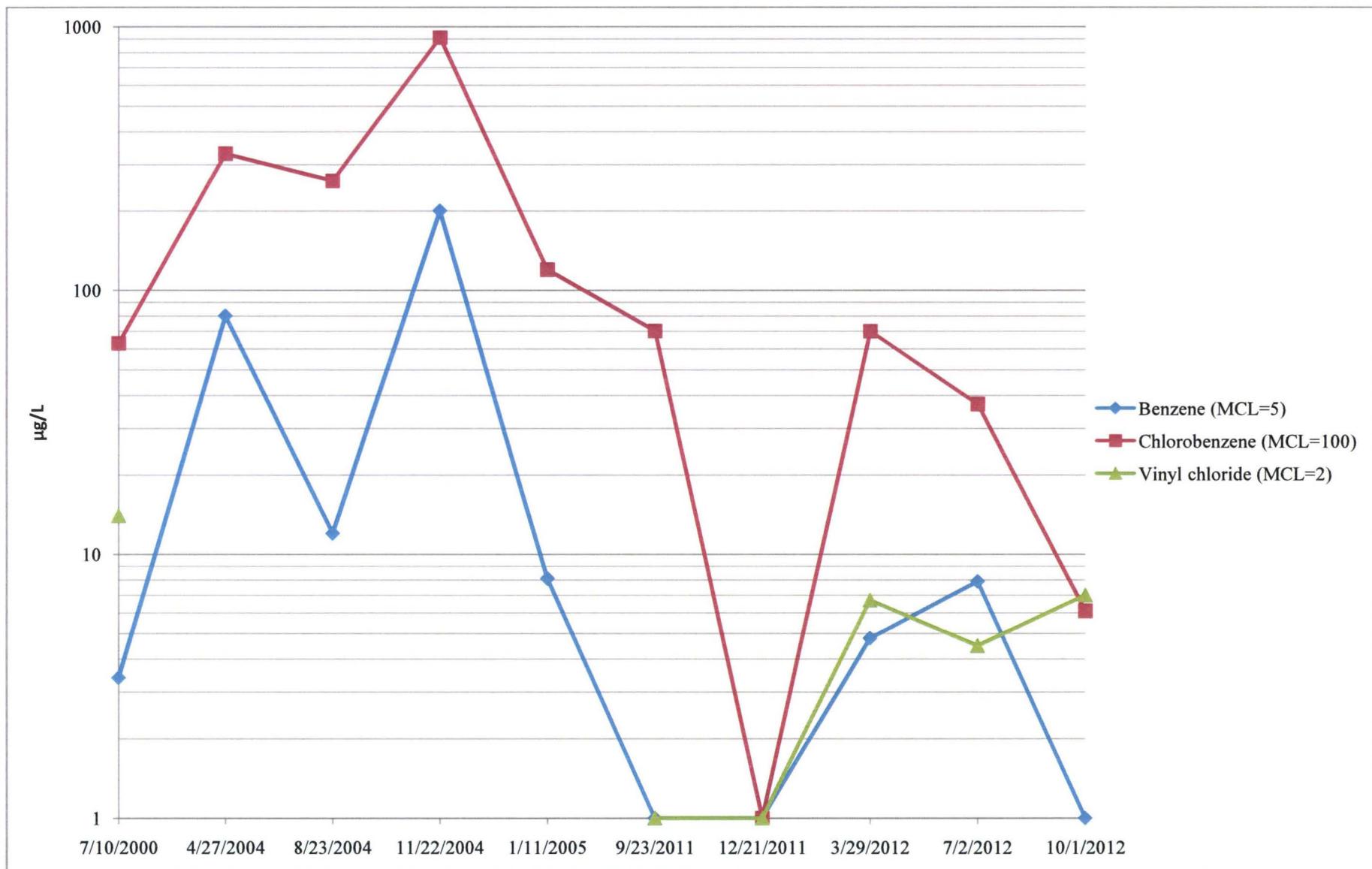
MW-24 B  
Former Bulk Chemical Storage Area (FBCSA)



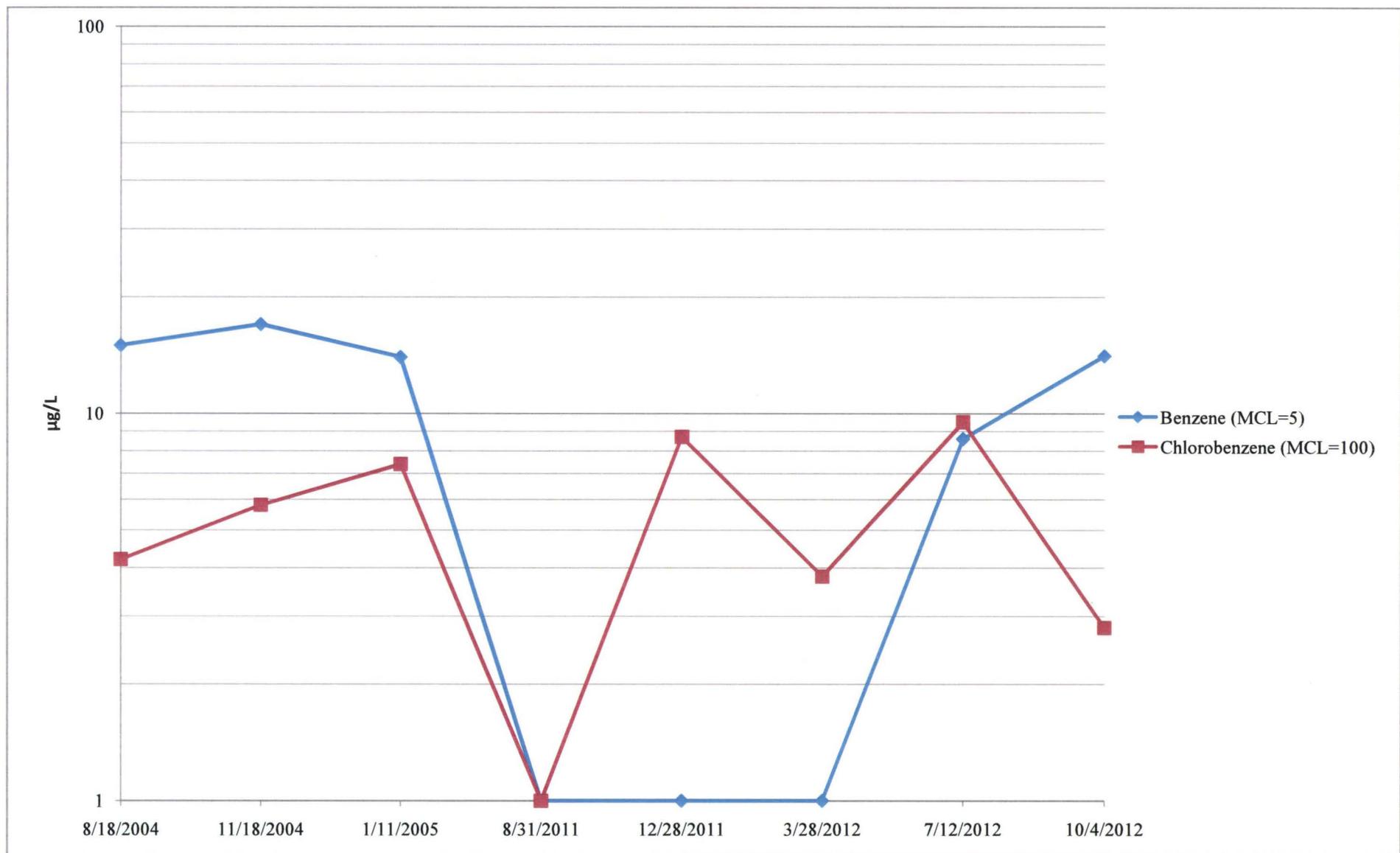
MW-25 A  
Former Bulk Chemical Storage Area (FBCSA)



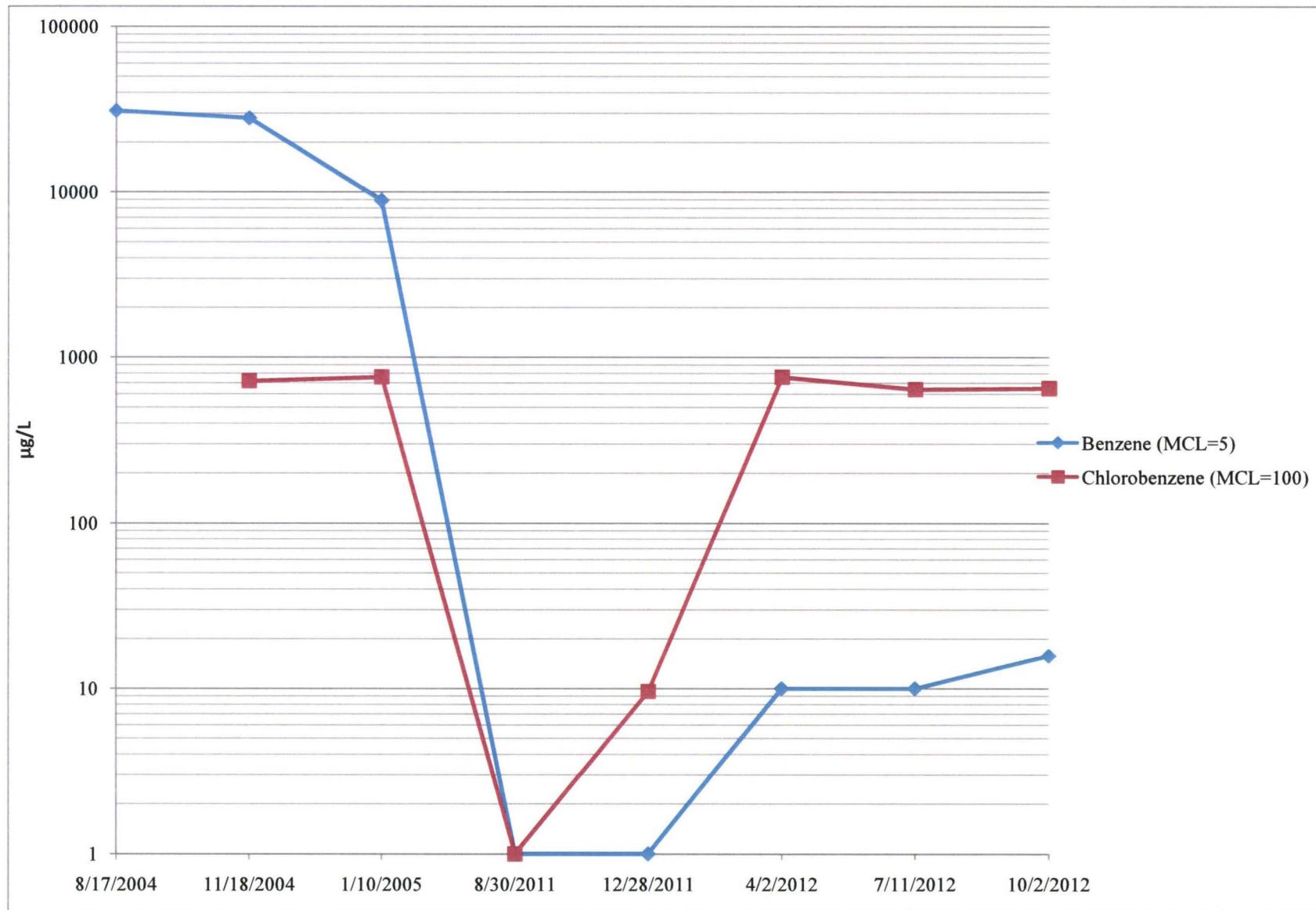
MW-25B  
Former Bulk Chemical Storage Area



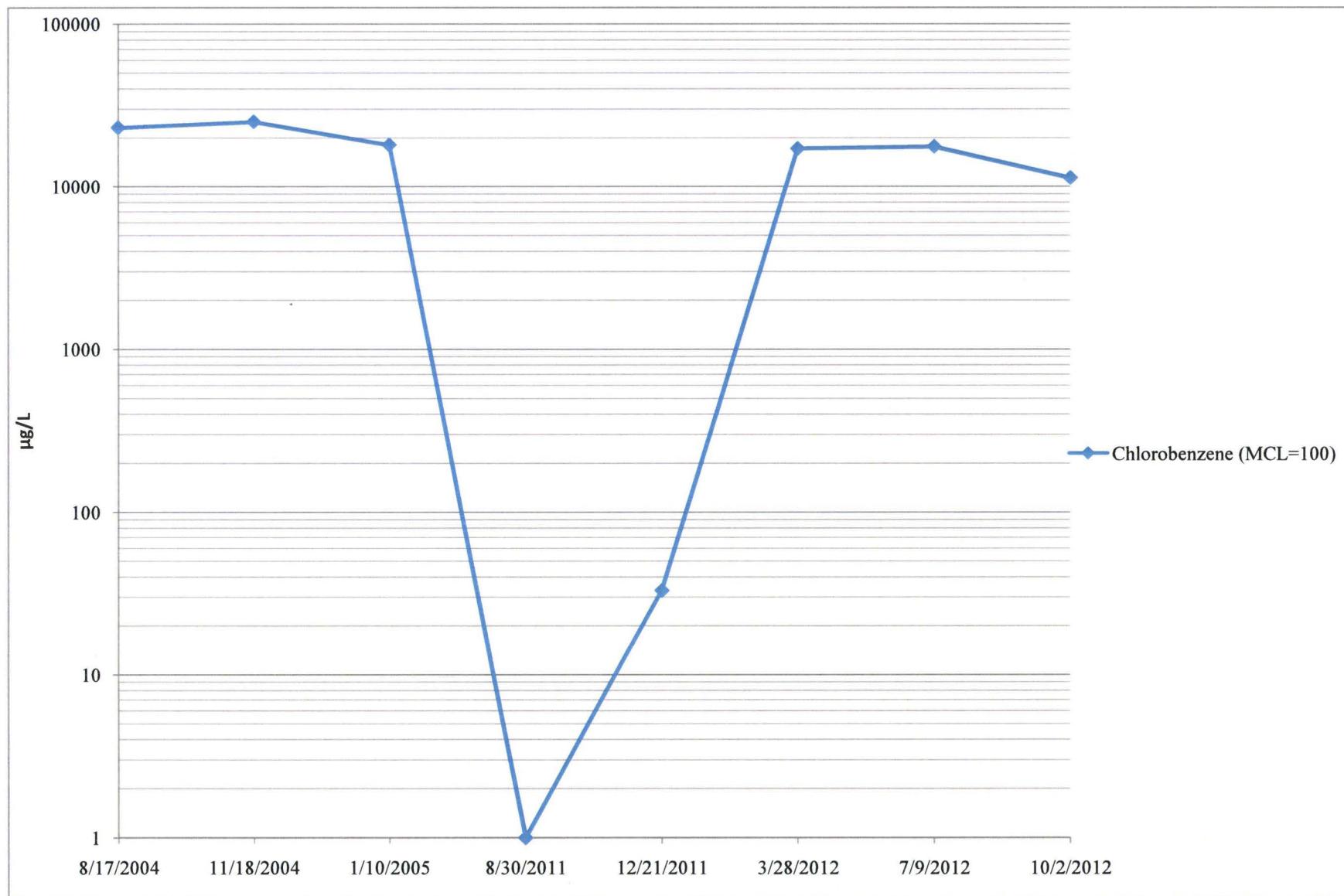
MW-31B  
Former Bulk Chemical Storage Area



MW-32B  
Former Bulk Chemical Storage Area



MW-33B  
Former Bulk Chemical Storage Area



VW-1  
Former Bulk Chemical Storage Area



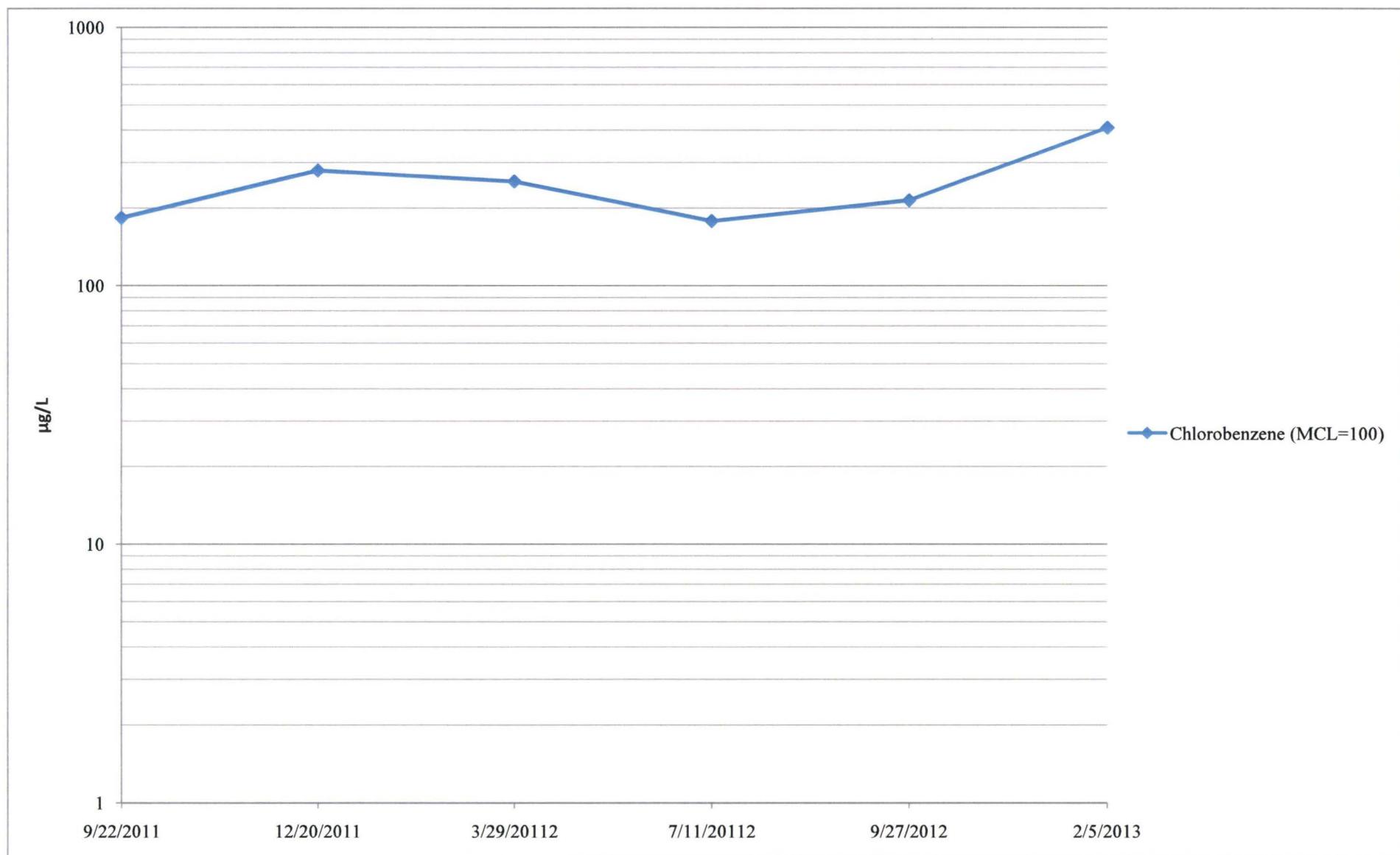
VW-2  
Former Bulk Chemical Storage Area



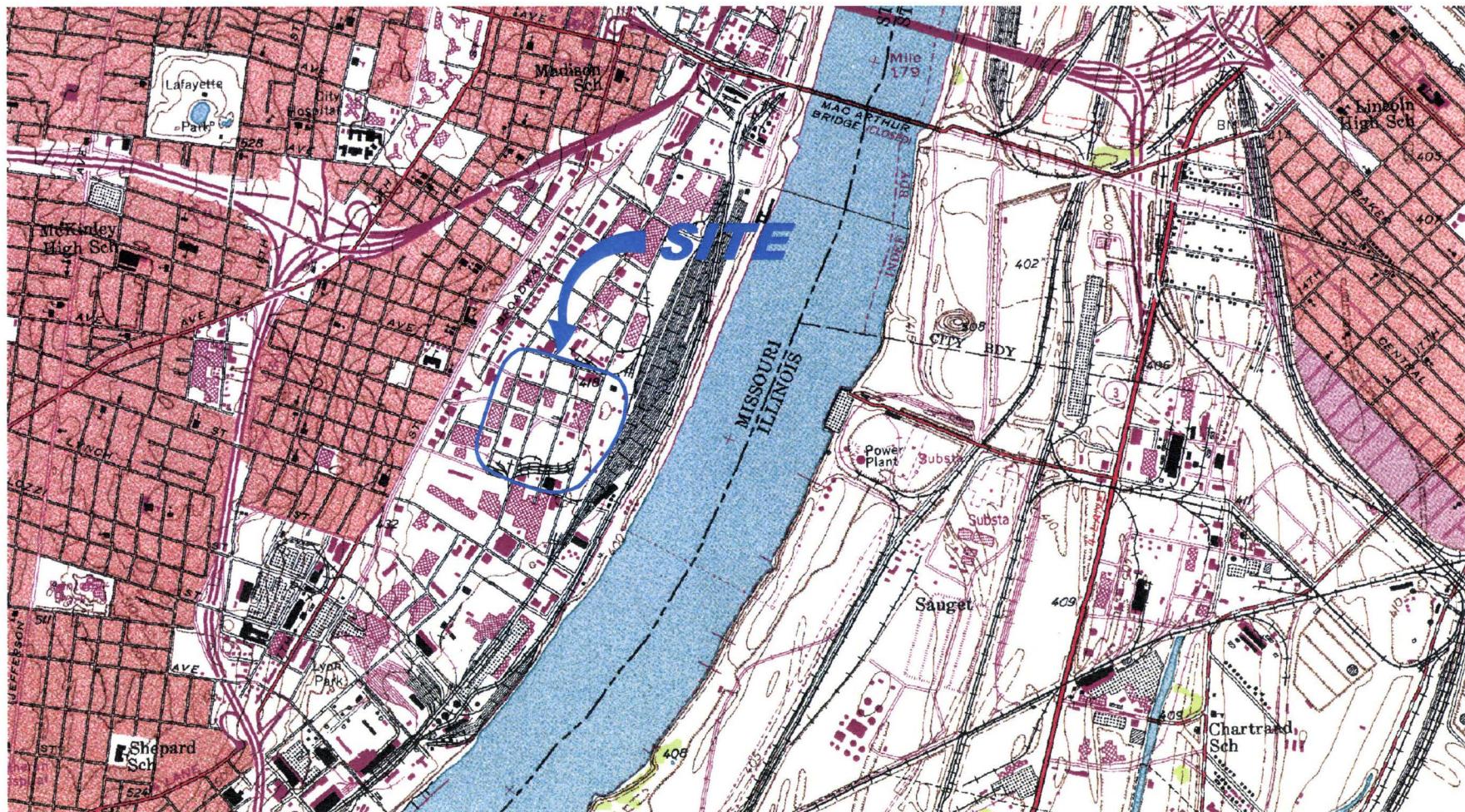
VW-2B  
Former Bulk Chemical Storage Area



FBCSA-MW-5  
Former Bulk Chemical Storage Area

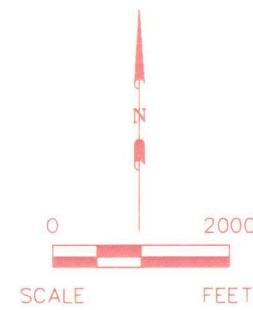


## **FIGURES**

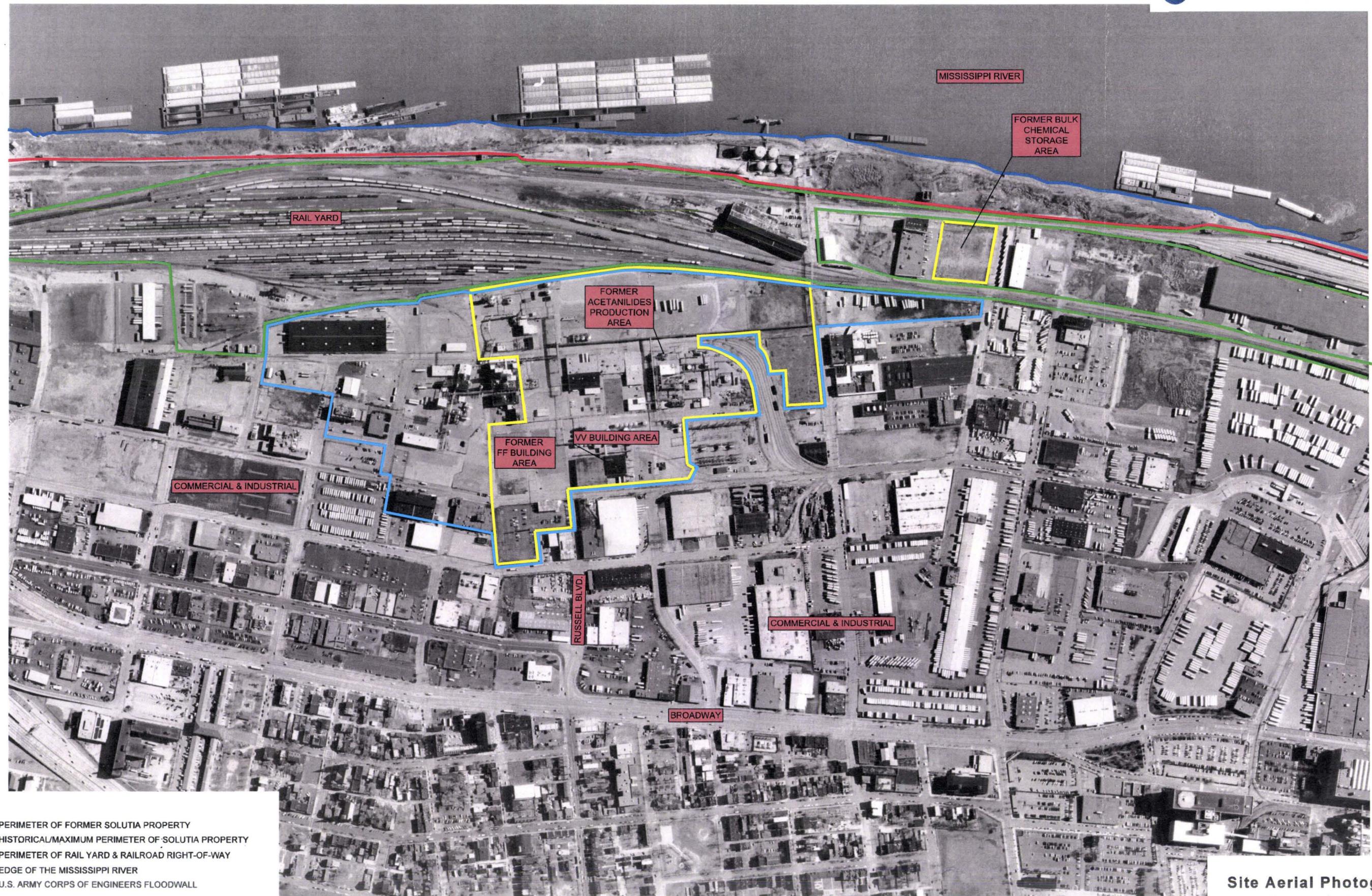
**LEGEND**

- GENERAL LOCATION OF  
J.F. QUEENY PLANT

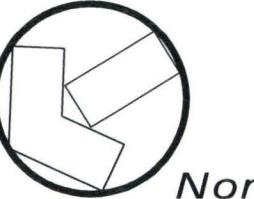
BASE MAP REFERENCE: MAP TAKEN FROM ELECTRONIC  
USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE SERIES  
TOPOGRAPHIC MAP OF CAHOKIA, ILLINOIS, REVISED 1952.



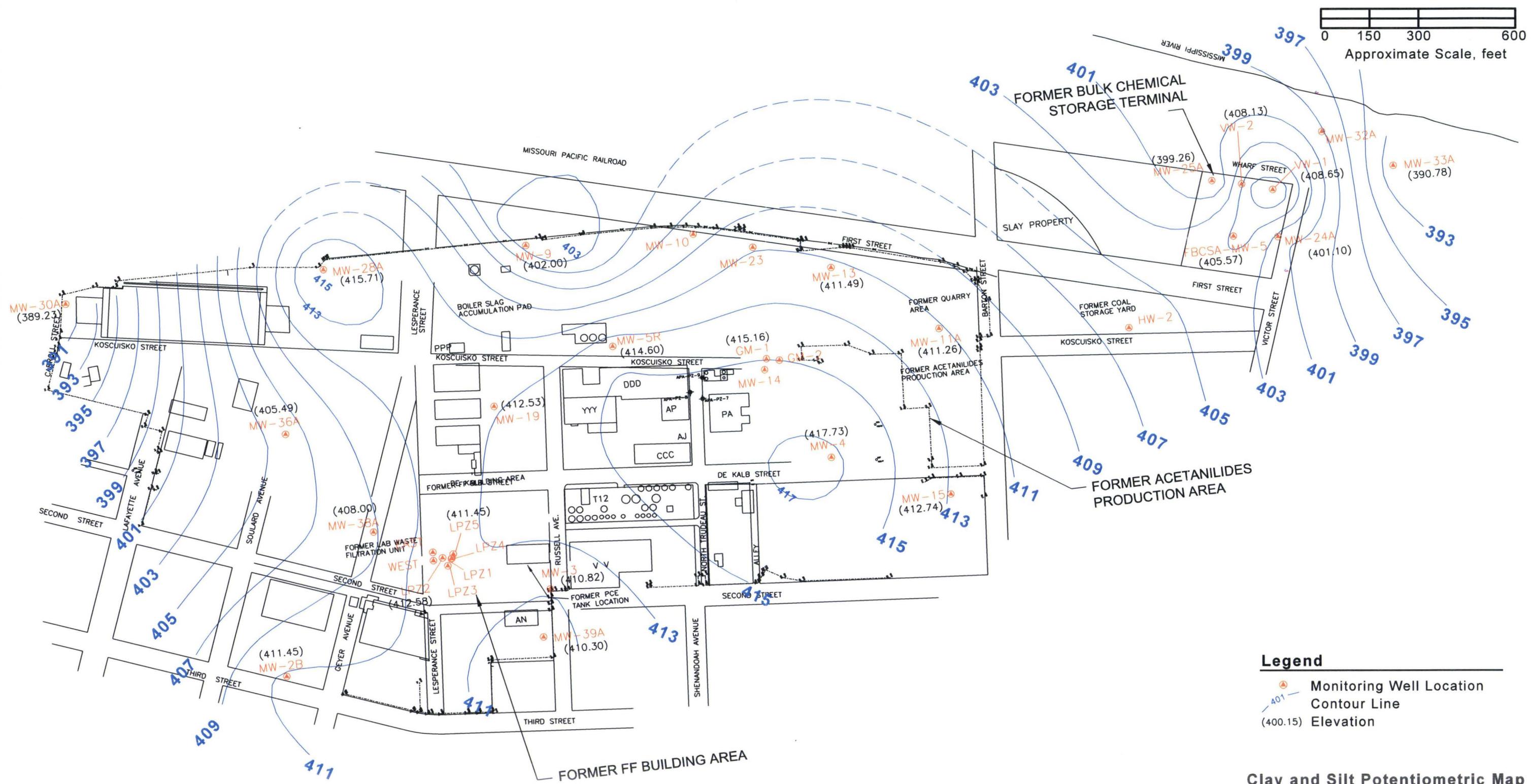
**Site Location Map**  
Former Solutia Queeny Plant  
Saint Louis Missouri



**Site Aerial Photograph**  
Former Solutia Queney Plant  
Saint Louis Missouri

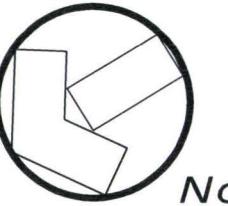


## *North*

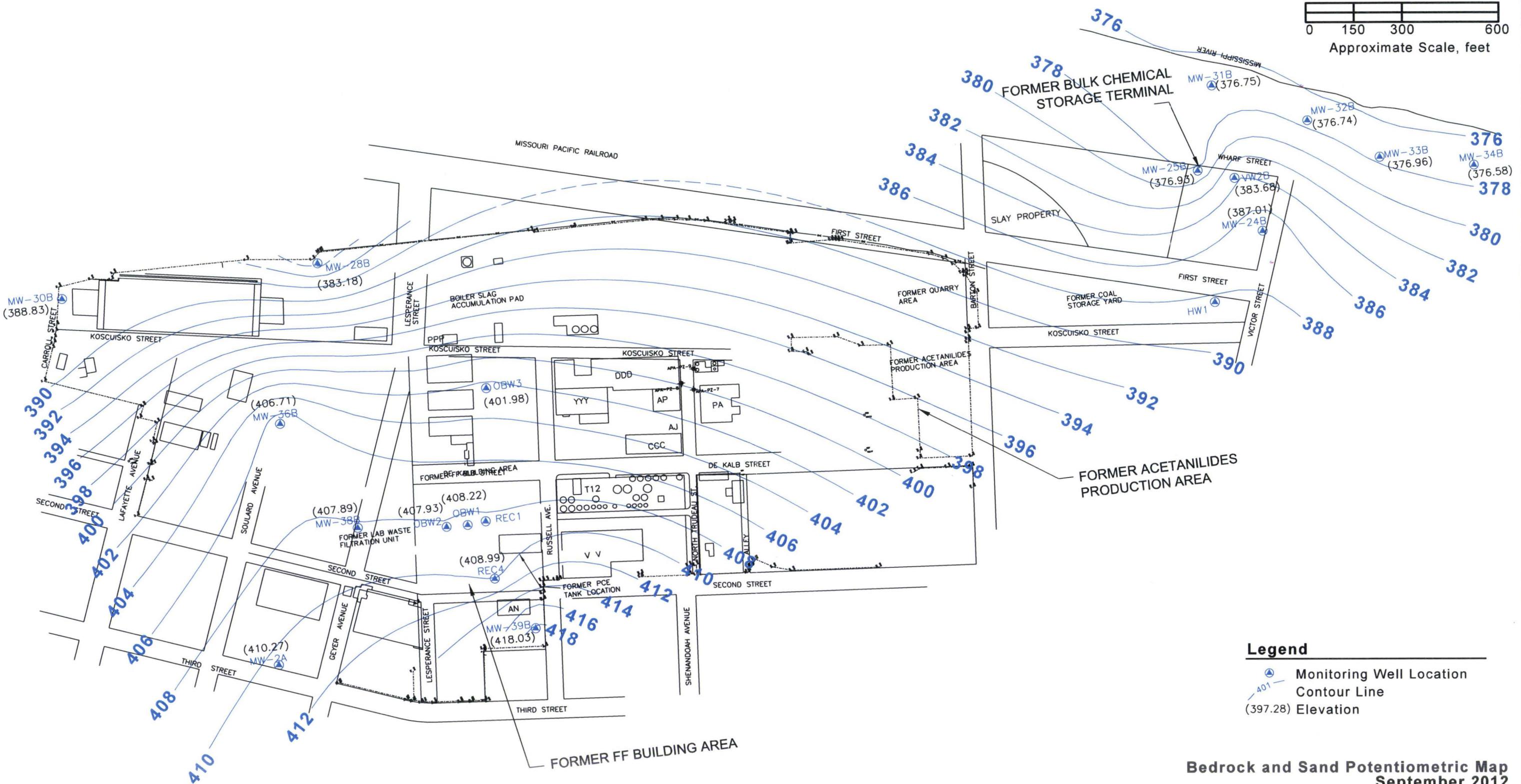
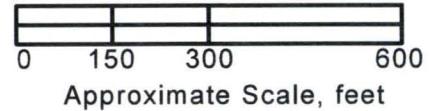


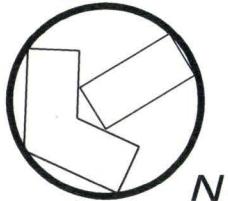
**Clay and Silt Potentiometric Map  
September 2012**

Figure 3

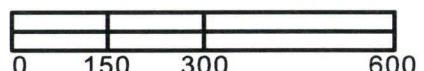
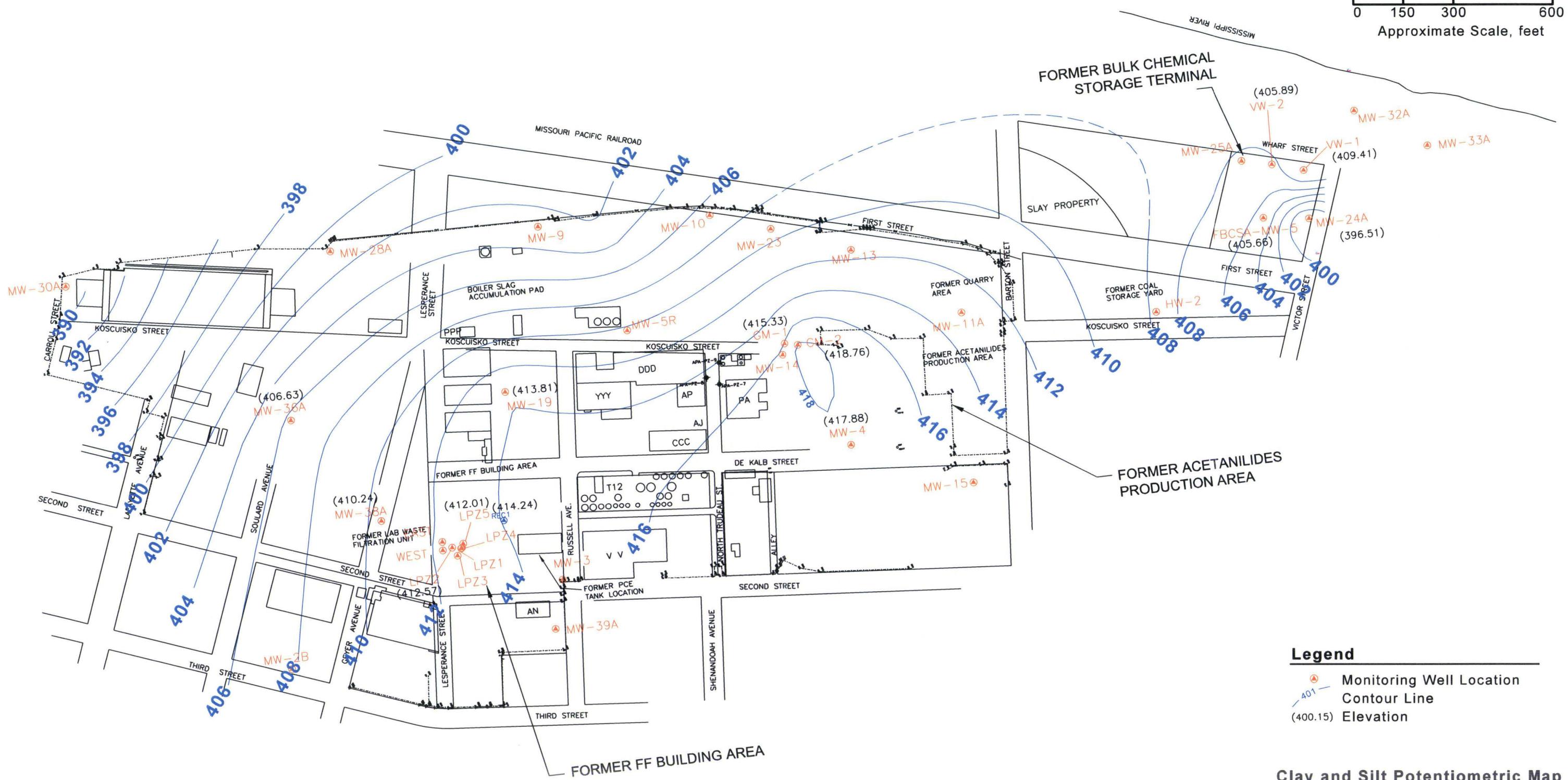


North

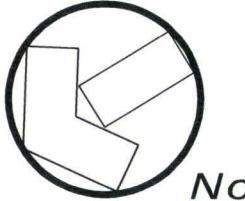




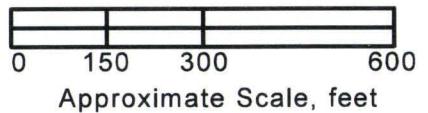
North


  
Approximate Scale, feet


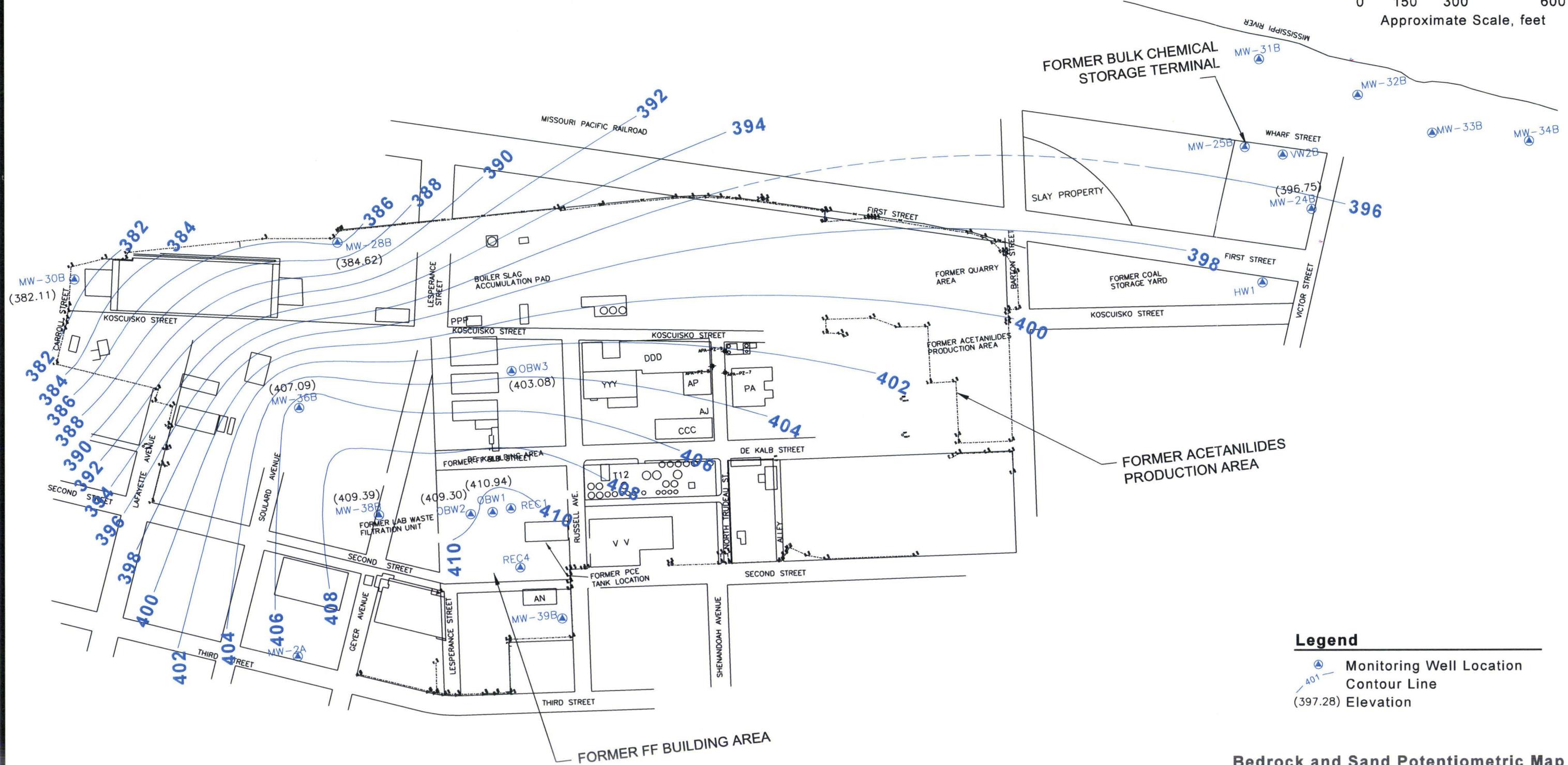
Clay and Silt Potentiometric Map  
February 2013  
Former Solutia Queeny Plant  
Saint Louis, Missouri



## *North*



**Approximate Scale, feet**



## Legend

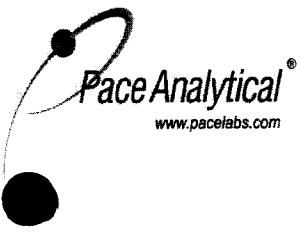
-  Monitoring Well Location  
Contour Line  
(397.28) Elevation

# **Bedrock and Sand Potentiometric Map**

## **February 2013**

**Former Solutia Queeny Plant  
Saint Louis, Missouri**

**APPENDIX A**  
**First Quarter Laboratory Analytical Reports**



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

November 12, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jamie Church'.

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 33

PacePackage P. 1 of 44

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nevada Certification #: MN\_00064  
 Nebraska Certification #: Pace  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2

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Pace Analytical Services, Inc.  
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Lenexa, KS 66219  
(913)599-5665

## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129673001	GM-1-092412	Water	09/24/12 13:23	09/25/12 07:30
60129673002	MW-11A-092412	Water	09/24/12 13:15	09/25/12 07:30
60129673003	MW-4-092412	Water	09/24/12 14:30	09/25/12 07:30
60129673004	MW-5R-092412	Water	09/24/12 14:40	09/25/12 07:30
60129673005	TB-1	Water	09/24/12 00:00	09/25/12 07:30

## REPORT OF LABORATORY ANALYSIS

Page 3 of 33

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129673001	GM-1-092412	RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129673002	MW-11A-092412	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60129673003	MW-4-092412	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JKL, JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60129673004	MW-5R-092412	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JKL, JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
60129673005	TB-1	EPA 5030B/8260	JKL	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

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Page 5 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: GM-1-092412	Lab ID: 60129673001	Collected: 09/24/12 13:23	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 10:40	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 10:40	74-85-1	
Methane	748 ug/L		6.6	1		09/29/12 10:40	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	5730 ug/L		50.0	1	09/27/12 17:45	09/28/12 16:28	7439-89-6	
Manganese	5950 ug/L		5.0	1	09/27/12 17:45	09/28/12 16:28	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		2500	250		09/27/12 14:42	67-64-1	
Benzene	ND ug/L		250	250		09/27/12 14:42	71-43-2	
Carbon disulfide	ND ug/L		1250	250		09/27/12 14:42	75-15-0	
Chlorobenzene	69000 ug/L		1000	1000		09/28/12 21:22	108-90-7	
Chloroform	ND ug/L		250	250		09/27/12 14:42	67-66-3	
1,2-Dichloroethane	ND ug/L		250	250		09/27/12 14:42	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		250	250		09/27/12 14:42	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		250	250		09/27/12 14:42	156-60-5	
Ethylbenzene	ND ug/L		250	250		09/27/12 14:42	100-41-4	
Iodomethane	ND ug/L		2500	250		09/27/12 14:42	74-88-4	
Methylene chloride	ND ug/L		250	250		09/27/12 14:42	75-09-2	
Tetrachloroethene	ND ug/L		250	250		09/27/12 14:42	127-18-4	
Toluene	ND ug/L		250	250		09/27/12 14:42	108-88-3	
1,1,1-Trichloroethane	ND ug/L		250	250		09/27/12 14:42	71-55-6	
Trichloroethene	ND ug/L		250	250		09/27/12 14:42	79-01-6	
Vinyl chloride	ND ug/L		250	250		09/27/12 14:42	75-01-4	
Xylene (Total)	ND ug/L		750	250		09/27/12 14:42	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	250		09/27/12 14:42	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	250		09/27/12 14:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	94 %		80-120	250		09/27/12 14:42	17060-07-0	
Toluene-d8 (S)	108 %		80-120	250		09/27/12 14:42	2037-26-5	
Preservation pH	1.0		0.10	250		09/27/12 14:42		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	271 mg/L		20.0	1		09/27/12 10:27		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	537 mg/L		5.0	1		09/26/12 14:25		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		09/25/12 18:01		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.052 mg/L		0.050	1		09/28/12 19:39	18496-25-8	

Date: 11/12/2012 03:57 PM

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Page 6 of 33



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Lenexa, KS 66219  
(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: GM-1-092412	Lab ID: 60129673001	Collected: 09/24/12 13:23	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	80.6 mg/L		10.0	10		09/29/12 18:17	16887-00-6	
Sulfate	58.7 mg/L		10.0	10		09/29/12 18:17	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/25/12 16:18		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/25/12 16:18		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/25/12 16:18		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	169 mg/L		5.0	5		10/10/12 07:49	7440-44-0	M1
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	324 mg/L		20.0	1		09/27/12 10:30	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-11A-092412	Lab ID: 60129673002	Collected: 09/24/12 13:15	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 10:50	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 10:50	74-85-1	
Methane	8540 ug/L		6.6	1		09/29/12 10:50	74-82-8	E
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	50200 ug/L		50.0	1	09/27/12 17:45	09/28/12 16:30	7439-89-6	
Manganese	706 ug/L		5.0	1	09/27/12 17:45	09/28/12 16:30	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 14:57	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 14:57	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 14:57	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		09/27/12 14:57	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 14:57	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 14:57	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 14:57	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 14:57	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 14:57	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 14:57	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 14:57	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 14:57	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 14:57	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 14:57	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 14:57	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/27/12 14:57	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 14:57	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	97 %		80-120	1		09/27/12 14:57	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		09/27/12 14:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-120	1		09/27/12 14:57	17060-07-0	
Toluene-d8 (S)	92 %		80-120	1		09/27/12 14:57	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 14:57		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1470 mg/L		120	1		09/27/12 10:38		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	3680 mg/L		5.0	1		09/26/12 14:26		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		09/25/12 18:01		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		09/28/12 19:41	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 8 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-11A-092412	Lab ID: 60129673002	Collected: 09/24/12 13:15	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	15.8	mg/L	1.0	1		09/29/12 18:33	16887-00-6	
Sulfate	ND	mg/L	1.0	1		09/29/12 18:33	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.20	2		09/25/12 16:14		D3
Nitrogen, Nitrite	ND	mg/L	0.20	2		09/25/12 16:14		D3
Nitrogen, NO2 plus NO3	ND	mg/L	0.20	2		09/25/12 16:14		D3
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	404	mg/L	20.0	20		10/10/12 12:17	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	1480	mg/L	20.0	1		09/27/12 10:30	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 9 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-4-092412	Lab ID: 60129673003	Collected: 09/24/12 14:30	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 11:12	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 11:12	74-85-1	
Methane	16.6 ug/L		6.6	1		09/29/12 11:12	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	1590 ug/L		50.0	1	09/27/12 17:45	09/28/12 16:32	7439-89-6	
Manganese	1780 ug/L		5.0	1	09/27/12 17:45	09/28/12 16:32	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/30/12 21:50	67-64-1	
Benzene	1.5 ug/L		1.0	1		09/30/12 21:50	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/30/12 21:50	75-15-0	
Chlorobenzene	609 ug/L		10.0	10		09/28/12 21:37	108-90-7	
Chloroform	ND ug/L		1.0	1		09/30/12 21:50	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/30/12 21:50	107-06-2	
cis-1,2-Dichloroethene	1.5 ug/L		1.0	1		09/30/12 21:50	156-59-2	C8,P2
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/30/12 21:50	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/30/12 21:50	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/30/12 21:50	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/30/12 21:50	75-09-2	
Tetrachloroethylene	ND ug/L		1.0	1		09/30/12 21:50	127-18-4	
Toluene	ND ug/L		1.0	1		09/30/12 21:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/30/12 21:50	71-55-6	
Trichloroethylene	ND ug/L		1.0	1		09/30/12 21:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/30/12 21:50	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/30/12 21:50	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105 %		80-120	1		09/30/12 21:50	460-00-4	
Dibromofluoromethane (S)	103 %		80-120	1		09/30/12 21:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		09/30/12 21:50	17060-07-0	
Toluene-d8 (S)	97 %		80-120	1		09/30/12 21:50	2037-26-5	
Preservation pH	1.0		0.10	1		09/30/12 21:50		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	230 mg/L		20.0	1		09/27/12 10:42		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	360 mg/L		5.0	1		09/26/12 14:26		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3 Std. Units		0.10	1		09/25/12 18:01		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		09/28/12 19:41	18496-25-8	

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Page 10 of 33



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-4-092412	Lab ID: 60129673003	Collected: 09/24/12 14:30	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	4.2 mg/L		1.0	1		09/30/12 15:06	16887-00-6	
Sulfate	49.8 mg/L		5.0	5		09/30/12 15:24	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.20	2		09/25/12 16:19		D3
Nitrogen, Nitrite	ND mg/L		0.20	2		09/25/12 16:19		D3
Nitrogen, NO2 plus NO3	ND mg/L		0.20	2		09/25/12 16:19		D3
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.2 mg/L		1.0	1		09/29/12 17:02	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	226 mg/L		20.0	1		09/27/12 10:30	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 11 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-5R-092412	Lab ID: 60129673004	Collected: 09/24/12 14:40	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 11:22	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 11:22	74-85-1	
Methane	29.2 ug/L		6.6	1		09/29/12 11:22	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	7940 ug/L		50.0	1	09/27/12 17:45	09/28/12 16:35	7439-89-6	
Manganese	6540 ug/L		5.0	1	09/27/12 17:45	09/28/12 16:35	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 15:28	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 15:28	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 15:28	75-15-0	
Chlorobenzene	5.7 ug/L		1.0	1		09/30/12 18:29	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 15:28	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 15:28	107-06-2	
cis-1,2-Dichloroethene	6.8 ug/L		1.0	1		09/27/12 15:28	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 15:28	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 15:28	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 15:28	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 15:28	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 15:28	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 15:28	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 15:28	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 15:28	79-01-6	
Vinyl chloride	1.8 ug/L		1.0	1		09/27/12 15:28	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 15:28	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	96 %		80-120	1		09/27/12 15:28	460-00-4	
Dibromofluoromethane (S)	96 %		80-120	1		09/27/12 15:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	1		09/27/12 15:28	17060-07-0	
Toluene-d8 (S)	107 %		80-120	1		09/27/12 15:28	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 15:28		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	357 mg/L		20.0	1		09/27/12 10:48		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1190 mg/L		5.0	1		09/26/12 14:26		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		09/25/12 18:01		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		09/28/12 19:41	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 12 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: MW-5R-092412	Lab ID: 60129673004	Collected: 09/24/12 14:40	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	272 mg/L		50.0	50		09/29/12 00:38	16887-00-6	
Sulfate	193 mg/L		50.0	50		09/29/12 00:38	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/25/12 16:20		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/25/12 16:20		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/25/12 16:20		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.5 mg/L		1.0	1		09/29/12 14:54	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	360 mg/L		20.0	1		09/27/12 10:30	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 13 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

Sample: TB-1	Lab ID: 60129673005	Collected: 09/24/12 00:00	Received: 09/25/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 15:44	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 15:44	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 15:44	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		09/27/12 15:44	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 15:44	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 15:44	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 15:44	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 15:44	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 15:44	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 15:44	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 15:44	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 15:44	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 15:44	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 15:44	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 15:44	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/27/12 15:44	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 15:44	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105 %		80-120	1		09/27/12 15:44	460-00-4	
Dibromofluoromethane (S)	93 %		80-120	1		09/27/12 15:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	92 %		80-120	1		09/27/12 15:44	17060-07-0	
Toluene-d8 (S)	102 %		80-120	1		09/27/12 15:44	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 15:44		

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

QC Batch: AIR/15835 Analysis Method: RSK 175  
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE  
Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

METHOD BLANK: 1298387 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	09/29/12 09:07	
Ethene	ug/L	ND	6.2	09/29/12 09:07	
Methane	ug/L	ND	6.6	09/29/12 09:07	

LABORATORY CONTROL SAMPLE & LCSD: 1298388 1298389

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	99.0	98.4	87	87	70-130	.6	30	
Ethene	ug/L	106	92.8	92.2	88	87	70-130	.6	30	
Methane	ug/L	60.7	54.6	54.0	90	89	70-130	1	30	

SAMPLE DUPLICATE: 1299531

Parameter	Units	60129673002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	1.5J		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	8540	9190	7	30 E	

SAMPLE DUPLICATE: 1299532

Parameter	Units	5069753001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	.98J		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: MPRP/19676 Analysis Method: EPA 6010  
QC Batch Method: EPA 3010 Analysis Description: 6010 MET  
Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

METHOD BLANK: 1068523 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	09/28/12 15:56	
Manganese	ug/L	ND	5.0	09/28/12 15:56	

LABORATORY CONTROL SAMPLE: 1068524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9880	99	80-120	
Manganese	ug/L	1000	989	99	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1068525 1068526

Parameter	Units	60129527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Iron	ug/L	14.5 mg/L	10000	10000	24000	24100	95	95	75-125	0	20	
Manganese	ug/L	2.2 mg/L	1000	1000	3120	3120	94	94	75-125	0	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: MSV/48782 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129673001, 60129673002, 60129673004, 60129673005

METHOD BLANK: 1068376 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673004, 60129673005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/27/12 13:25	
1,2-Dichloroethane	ug/L	ND	1.0	09/27/12 13:25	
Acetone	ug/L	ND	10.0	09/27/12 13:25	
Benzene	ug/L	ND	1.0	09/27/12 13:25	
Carbon disulfide	ug/L	ND	5.0	09/27/12 13:25	
Chlorobenzene	ug/L	ND	1.0	09/27/12 13:25	
Chloroform	ug/L	ND	1.0	09/27/12 13:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Ethylbenzene	ug/L	ND	1.0	09/27/12 13:25	
Iodomethane	ug/L	ND	10.0	09/27/12 13:25	
Methylene chloride	ug/L	ND	1.0	09/27/12 13:25	
Tetrachloroethene	ug/L	ND	1.0	09/27/12 13:25	
Toluene	ug/L	ND	1.0	09/27/12 13:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Trichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Vinyl chloride	ug/L	ND	1.0	09/27/12 13:25	
Xylene (Total)	ug/L	ND	3.0	09/27/12 13:25	
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/27/12 13:25	
4-Bromofluorobenzene (S)	%	96	80-120	09/27/12 13:25	
Dibromofluoromethane (S)	%	97	80-120	09/27/12 13:25	
Toluene-d8 (S)	%	109	80-120	09/27/12 13:25	

LABORATORY CONTROL SAMPLE: 1068377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.7	84	76-120	
1,2-Dichloroethane	ug/L	20	17.0	85	72-123	
Acetone	ug/L	100	158	158	40-160	
Benzene	ug/L	20	17.2	86	74-123	
Carbon disulfide	ug/L	20	14.9	74	67-135	
Chlorobenzene	ug/L	20	18.5	92	80-120	
Chloroform	ug/L	20	17.3	87	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.2	81	70-120	
Ethylbenzene	ug/L	20	18.9	94	76-123	
Iodomethane	ug/L	20	18.8	94	40-160	
Methylene chloride	ug/L	20	17.5	87	72-127	
Tetrachloroethene	ug/L	20	17.9	89	78-121	
Toluene	ug/L	20	19.4	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	16.7	83	80-129	
Trichloroethene	ug/L	20	17.2	86	74-120	
Vinyl chloride	ug/L	20	15.4	77	50-140	

Date: 11/12/2012 03:57 PM

**REPORT OF LABORATORY ANALYSIS**

Page 17 of 33

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

LABORATORY CONTROL SAMPLE: 1068377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	56.9	95	76-123	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			104	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: MSV/48829 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129673001, 60129673003

METHOD BLANK: 1069402 Matrix: Water

Associated Lab Samples: 60129673001, 60129673003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/L	ND	1.0	09/28/12 18:48	
1,2-Dichloroethane-d4 (S)	%	92	80-120	09/28/12 18:48	
4-Bromofluorobenzene (S)	%	102	80-120	09/28/12 18:48	
Dibromofluoromethane (S)	%	92	80-120	09/28/12 18:48	
Toluene-d8 (S)	%	96	80-120	09/28/12 18:48	

LABORATORY CONTROL SAMPLE: 1069403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	19.5	98	80-120	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			95	80-120	
Toluene-d8 (S)	%			102	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: MSV/48869 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129673003, 60129673004

METHOD BLANK: 1070526

Matrix: Water

Associated Lab Samples: 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/30/12 18:14	
1,2-Dichloroethane	ug/L	ND	1.0	09/30/12 18:14	
Acetone	ug/L	ND	10.0	09/30/12 18:14	
Benzene	ug/L	ND	1.0	09/30/12 18:14	
Carbon disulfide	ug/L	ND	5.0	09/30/12 18:14	
Chlorobenzene	ug/L	ND	1.0	09/30/12 18:14	
Chloroform	ug/L	ND	1.0	09/30/12 18:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Ethylbenzene	ug/L	ND	1.0	09/30/12 18:14	
Iodomethane	ug/L	ND	10.0	09/30/12 18:14	
Methylene chloride	ug/L	ND	1.0	09/30/12 18:14	
Tetrachloroethene	ug/L	ND	1.0	09/30/12 18:14	
Toluene	ug/L	ND	1.0	09/30/12 18:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Trichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Vinyl chloride	ug/L	ND	1.0	09/30/12 18:14	
Xylene (Total)	ug/L	ND	3.0	09/30/12 18:14	
1,2-Dichloroethane-d4 (S)	%	96	80-120	09/30/12 18:14	
4-Bromofluorobenzene (S)	%	109	80-120	09/30/12 18:14	
Dibromofluoromethane (S)	%	98	80-120	09/30/12 18:14	
Toluene-d8 (S)	%	92	80-120	09/30/12 18:14	

LABORATORY CONTROL SAMPLE: 1070527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	84	76-120	
1,2-Dichloroethane	ug/L	20	17.1	85	72-123	
Acetone	ug/L	100	89.1	89	40-160	
Benzene	ug/L	20	17.9	90	74-123	
Carbon disulfide	ug/L	20	16.0	80	67-135	
Chlorobenzene	ug/L	20	18.5	93	80-120	
Chloroform	ug/L	20	17.4	87	77-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	70-120	
Ethylbenzene	ug/L	20	18.8	94	76-123	
Iodomethane	ug/L	20	16.0	80	40-160	
Methylene chloride	ug/L	20	17.5	88	72-127	
Tetrachloroethene	ug/L	20	17.7	88	78-121	
Toluene	ug/L	20	19.3	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	18.4	92	80-129	
Trichloroethene	ug/L	20	16.4	82	74-120	
Vinyl chloride	ug/L	20	16.9	84	50-140	

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Page 20 of 33

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129673

LABORATORY CONTROL SAMPLE: 1070527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	55.6	93	76-123	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			93	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch:	WET/37340	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004			

METHOD BLANK: 1067684	Matrix: Water
-----------------------	---------------

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	09/27/12 09:51	

LABORATORY CONTROL SAMPLE: 1067685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 1067686

Parameter	Units	60129456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	142	142	0	9	

SAMPLE DUPLICATE: 1067687

Parameter	Units	60129319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	507	524	3	9	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WET/37332 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

METHOD BLANK: 1067517 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	09/26/12 14:23	

SAMPLE DUPLICATE: 1067518

Parameter	Units	60129472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	988	989	0	17	

SAMPLE DUPLICATE: 1067519

Parameter	Units	60129673004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1200	1	17	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WET/37315 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

SAMPLE DUPLICATE: 1066800

Parameter	Units	60129671001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	0	5	H6

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Page 24 of 33



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WET/37375 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

METHOD BLANK: 1068810 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	09/28/12 19:35	

LABORATORY CONTROL SAMPLE: 1068811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.47	93	80-120	

MATRIX SPIKE SAMPLE: 1070657

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.032J	.5	0.43	80	75-125	

SAMPLE DUPLICATE: 1068813

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	60129653002	ND	ND	20	

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## REPORT OF LABORATORY ANALYSIS

Page 25 of 33

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WETA/21817 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60129673001, 60129673002, 60129673004

METHOD BLANK: 1068970 Matrix: Water

Associated Lab Samples: 60129673002, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/28/12 19:35	
Sulfate	mg/L	ND	1.0	09/28/12 19:35	

METHOD BLANK: 1069987 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/29/12 15:25	
Sulfate	mg/L	ND	1.0	09/29/12 15:25	

LABORATORY CONTROL SAMPLE: 1068971

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 1069988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE SAMPLE: 1068972

Parameter	Units	60129671001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	186000	100000	271000	85	64-118	
Sulfate	mg/L	ND	100000	101000	91	61-119	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1068973 1068974

Parameter	Units	60129710001 Result	MS Spike Conc.	MS Spike Conc.	MS Result	MS % Rec	MS % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Chloride	mg/L	537	250	250	756	754	87	87	64-118	0	12
Sulfate	mg/L	593	250	250	800	820	83	90	61-119	2	10

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Page 26 of 33

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

QC Batch: WETA/21836 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60129673003

METHOD BLANK: 1070489 Matrix: Water

Associated Lab Samples: 60129673003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/30/12 13:22	
Sulfate	mg/L	ND	1.0	09/30/12 13:22	

LABORATORY CONTROL SAMPLE: 1070490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1070491 1070492

Parameter	Units	60129673003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Chloride	mg/L	4.2	5	5	8.6	8.6	88	87	64-118	0	12	
Sulfate	mg/L	49.8	25	25	71.6	70.9	87	84	61-119	1	10	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WETA/21765 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

METHOD BLANK: 1066787 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002, 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/25/12 15:59	
Nitrogen, Nitrite	mg/L	ND	0.10	09/25/12 15:59	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/25/12 15:59	

LABORATORY CONTROL SAMPLE: 1066788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.8	110	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1066789

Parameter	Units	60129657001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	0.77	48	90-110	M1
Nitrogen, Nitrite	mg/L	ND	.4	1.3	325	90-110	M1
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1066790

Parameter	Units	60129670001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	7.3	3.2	9.5	69	90-110	M1
Nitrogen, Nitrite	mg/L	ND	.8	0.90	105	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	7.4	4	10.4	76	90-110	M1

SAMPLE DUPLICATE: 1066791

Parameter	Units	60129673002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	D3
Nitrogen, Nitrite	mg/L	ND	ND		31	D3
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	D3

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WETA/21832 Analysis Method: SM 5310C  
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon  
Associated Lab Samples: 60129673003, 60129673004

METHOD BLANK: 1069714 Matrix: Water

Associated Lab Samples: 60129673003, 60129673004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/29/12 10:40	

LABORATORY CONTROL SAMPLE: 1069715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.6	93	80-120	

MATRIX SPIKE SAMPLE: 1069716

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.9	5	7.5	112	80-120	

SAMPLE DUPLICATE: 1069717

Parameter	Units	60129376002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	1.3	1.3	5	25	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

QC Batch: WETA/21968 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60129673001, 60129673002

METHOD BLANK: 1076237 Matrix: Water

Associated Lab Samples: 60129673001, 60129673002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/10/12 07:20	

LABORATORY CONTROL SAMPLE: 1076238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.8	95	80-120	

MATRIX SPIKE SAMPLE: 1076239

Parameter	Units	60129673001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	169	25	207	152	80-120	M1

MATRIX SPIKE SAMPLE: 1076364

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10.8	5	17.0	124	80-120	M1

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129673

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/48782

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/48829

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/48869

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

C8 Result may be biased high due to carryover from previously analyzed sample.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129673

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129673001	GM-1-092412	RSK 175	AIR/15835		
60129673002	MW-11A-092412	RSK 175	AIR/15835		
60129673003	MW-4-092412	RSK 175	AIR/15835		
60129673004	MW-5R-092412	RSK 175	AIR/15835		
60129673001	GM-1-092412	EPA 3010	MPRP/19676	EPA 6010	ICP/16204
60129673002	MW-11A-092412	EPA 3010	MPRP/19676	EPA 6010	ICP/16204
60129673003	MW-4-092412	EPA 3010	MPRP/19676	EPA 6010	ICP/16204
60129673004	MW-5R-092412	EPA 3010	MPRP/19676	EPA 6010	ICP/16204
60129673001	GM-1-092412	EPA 5030B/8260	MSV/48782		
60129673001	GM-1-092412	EPA 5030B/8260	MSV/48829		
60129673002	MW-11A-092412	EPA 5030B/8260	MSV/48782		
60129673003	MW-4-092412	EPA 5030B/8260	MSV/48829		
60129673003	MW-4-092412	EPA 5030B/8260	MSV/48869		
60129673004	MW-5R-092412	EPA 5030B/8260	MSV/48782		
60129673004	MW-5R-092412	EPA 5030B/8260	MSV/48869		
60129673005	TB-1	EPA 5030B/8260	MSV/48782		
60129673001	GM-1-092412	SM 2320B	WET/37340		
60129673002	MW-11A-092412	SM 2320B	WET/37340		
60129673003	MW-4-092412	SM 2320B	WET/37340		
60129673004	MW-5R-092412	SM 2320B	WET/37340		
60129673001	GM-1-092412	SM 2540C	WET/37332		
60129673002	MW-11A-092412	SM 2540C	WET/37332		
60129673003	MW-4-092412	SM 2540C	WET/37332		
60129673004	MW-5R-092412	SM 2540C	WET/37332		
60129673001	GM-1-092412	SM 4500-H+B	WET/37315		
60129673002	MW-11A-092412	SM 4500-H+B	WET/37315		
60129673003	MW-4-092412	SM 4500-H+B	WET/37315		
60129673004	MW-5R-092412	SM 4500-H+B	WET/37315		
60129673001	GM-1-092412	SM 4500-S-2 D	WET/37375		
60129673002	MW-11A-092412	SM 4500-S-2 D	WET/37375		
60129673003	MW-4-092412	SM 4500-S-2 D	WET/37375		
60129673004	MW-5R-092412	SM 4500-S-2 D	WET/37375		
60129673001	GM-1-092412	EPA 300.0	WETA/21817		
60129673002	MW-11A-092412	EPA 300.0	WETA/21817		
60129673003	MW-4-092412	EPA 300.0	WETA/21836		
60129673004	MW-5R-092412	EPA 300.0	WETA/21817		
60129673001	GM-1-092412	EPA 353.2	WETA/21765		
60129673002	MW-11A-092412	EPA 353.2	WETA/21765		
60129673003	MW-4-092412	EPA 353.2	WETA/21765		
60129673004	MW-5R-092412	EPA 353.2	WETA/21765		

Date: 11/12/2012 03:57 PM

**REPORT OF LABORATORY ANALYSIS**

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Page 32 of 33

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129673

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129673001	GM-1-092412	SM 5310C	WETA/21968		
60129673002	MW-11A-092412	SM 5310C	WETA/21968		
60129673003	MW-4-092412	SM 5310C	WETA/21832		
60129673004	MW-5R-092412	SM 5310C	WETA/21832		
60129673001	GM-1-092412	SM 4500-CO2 D	WETA/21985		
60129673002	MW-11A-092412	SM 4500-CO2 D	WETA/21985		
60129673003	MW-4-092412	SM 4500-CO2 D	WETA/21985		
60129673004	MW-5R-092412	SM 4500-CO2 D	WETA/21985		

Date: 11/12/2012 03:57 PM

### REPORT OF LABORATORY ANALYSIS

Page 33 of 33

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01 November 2012

Jamie Slade  
Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa, KS 66219

RE: PAS Subcontract-JS

60129673

Enclosed are the results of analyses for samples received by the laboratory on 09/26/12 10:40. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

#### ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GM-1-092412	1I21446-01	Water	09/24/12 13:23	09/26/12 10:40
MW-11A-092412	1I21446-02	Water	09/24/12 13:15	09/26/12 10:40
MW-4-092412	1I21446-03	Water	09/24/12 14:30	09/26/12 10:40
MW-5R-092412	1I21446-04	Water	09/24/12 14:40	09/26/12 10:40



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

## Chain of Custody

Workorder:		Workorder Name:		SOLUTIA GROUNDWATER		Results Requested 10/2/2012	
Item	Sample	Date/Time	Released By	Date/Time	Received By	Date/Time	Comments
1	GM-1-092412	9/24/2012 13:23	60129673001	Water	2		none
2	MNW-1A-092412	9/24/2012 13:15	60129673002	Water	2		01
3	MNW-4-092412	9/24/2012 14:30	60129673003	Water	2		02
4	MNW-5A-092412	9/24/2012 14:40	60129673004	Water	2		03
5							04
Transfers	Released By	Date/Time	Received By	Date/Time			
1	<i>Jamie Slade</i>	9/24/12 14:40	<i>TRUWEND</i>	9/25/12 14:10			
2							
3							
Cooler Temperature on Receipt	°C	Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact Y or N	

Tuesday, September 25, 2012 11:25:30 AM

Page 1 of 1

FMT-ALL-C-002rev 03 24March2009

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 2 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

**GM-1-092412**

**1I21446-01 (Water)**

**Date Sampled: 9/24/2012 1:23:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	132000	2000	ug/L	20000	IVJ0045	10/01/12	10/05/12 15:22	EPA 8141	
Surrogate: 2-Nitro-m-xylene		%		45-134	"	"	"	"	S-01



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

**MW-11A-092412**

**II21446-02 (Water)**

**Date Sampled: 9/24/2012 1:15:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	1.36	0.10	ug/L	1	IVJ0045	10/01/12	10/03/12 11:23	EPA 8141	
----------	------	------	------	---	---------	----------	----------------	----------	--

Surrogate: 2-Nitro-m-xylene

105 %      45-134

"      "      "      "



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

**MW-4-092412**

**1I21446-03 (Water)**

**Date Sampled: 9/24/2012 2:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	12.8	0.10	ug/L	1	IVJ0045	10/01/12	10/03/12 12:03	EPA 8141
Surrogate: 2-Nitro-m-xylene		82.2 %		45-134	"	"	"	"



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

**MW-5R-092412**

**II21446-04 (Water)**

**Date Sampled: 9/24/2012 2:40:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	2.31	0.10	ug/L	1	IVJ0045	10/01/12	10/03/12 12:41	EPA 8141
----------	------	------	------	---	---------	----------	----------------	----------

Surrogate: 2-Nitro-m-xylene

106 %

45-134

"

"

"

"



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control**

**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1VJ0045 - 3510C NP/OC Sep Fnl**

**Blank (1VJ0045-BLK1)**

Alachlor	ND	0.10	ug/L		Prepared: 10/01/12	Analyzed: 10/03/12
----------	----	------	------	--	--------------------	--------------------

Surrogate: 2-Nitro-m-xylene

9.76 " 9.82400 99.4 45-134

**LCS (1VJ0045-BS1)**

Alachlor	3.425	0.10	ug/L	2.75000	125	57-143
----------	-------	------	------	---------	-----	--------

Surrogate: 2-Nitro-m-xylene

10.1 " 9.82400 103 45-134

**LCS Dup (1VJ0045-BSD1)**

Alachlor	3.165	0.10	ug/L	2.75000	115	57-143	7.89	30
----------	-------	------	------	---------	-----	--------	------	----

Surrogate: 2-Nitro-m-xylene

10.6 " 9.82400 108 45-134

**Reference (1VJ0045-SRM1)**

Alachlor	3.510	0.10	ug/L	2.75000	128	70-130
----------	-------	------	------	---------	-----	--------

Surrogate: 2-Nitro-m-xylene

12.0 " 9.82400 122 45-134

**Certified Analyses Included in This Report**

Method/Matrix	Analyte	Certifications
---------------	---------	----------------

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2013
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2013
MO-KC	Missouri Department of Natural Resources	140	04/30/2013
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2013
SIA1X	Iowa Department of Natural Resources	95	02/01/2014

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 7 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

### Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Keystone

LABORATORIES, INC.



MEMBER  
**ACIL**

Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129673  
Project Manager: Jamie Slade

Reported  
11/01/12 14:49

*Sue Thompson*

Sue Thompson  
Project Manager II

*The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.*

Page 9 of 9



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT All relevant fields must be completed accurately

**Section A**
**Required Client Information**

Company Environmental Operations

Report To: Larry Rosen

Address 1530 S. Second St Ste 200

Copy To:

St. Louis, MO 63104

Email To larryr@environmentalops.com

Purchase Order No

Phone 314-241-0900 Fax 314-436-2900

Project Name Solutia Groundwater

Requested Due Date/TAT: Standard

Project Number: Z950

**Section B**
**Required Project Information**
**Section C**
**Invoice Information**

Page: 1 of 1

Attention

Company Name

Address:

Pace Quote Reference:

Pace Project Manager

Pace Profile # Z950

**REGULATORY AGENCY**
 NPDES  GROUND WATER  DRINKING WATER

 UST  RCRA  OTHER  POTW

Site Location

MO

STATE:

(check one)

(check one)

(check one)

(check one)

**Requested Analysis Filtered (Y/N)**

ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER CT TISSUE TS	MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.			
				DATE	TIME	DATE	TIME			Unreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> SO <sub>3</sub>	Mathanol	Other	TDS	Carbon Dioxide	Sulfide	TOC	Alkalinity	Nitrate	Methane/Ethane/Etherene	8141 Alachlor
1	GM-1-092412 3D/HIT 3U/14U	WT G	9/24/12 16:05	9/24/12	13:23				11	5	1	1	1	1	1	1	1	X X	X X	X X	X X	X X	X X	X X	18PZ2 18PZ1 18PZ1 2461U C01
2	MW-1/A -092412	WT G				13:15				1								X X	X X	X X	X X	X X	X X	X X	C02
3	MW-4 -092412	WT G				14:30				1								X X	X X	X X	X X	X X	X X	X X	C03
4	MW-5A -092412	WT G				14:40				1								X X	X X	X X	X X	X X	X X	X X	C04
5	TB-1 -092412	WT G				LAR				2								X							2060/H C05
6		WT G																							
7		WT G																							
8		WT G																							
9		WT G																							
10		WT G																							
11		WT G																							
12		WT G																							
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION				DATE	TIME	ACCEPTED BY / AFFILIATION				DATE	TIME	SAMPLE CONDITIONS										

### Sample Condition Upon Receipt



Client Name: Env OP

Project # 66124673

*pva/25/12*

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other VEA

Optional

Proj. Due Date: 10/2  
Proj. Name:

Tracking #: \_\_\_\_\_

Pace Shipping Label Used?

Yes  No

Custody Seal on Cooler/Box Present:

Yes  No Seals intact:  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other 2PC

Thermometer Used: T-191 / T-194

Type of Ice: Mel Blue None

Samples on ice, cooling process has begun

Cooler Temperature: 4.4 / 22

Temperature should be above freezing to 6°C

Comments: \_\_\_\_\_

Date and Initials of person examining contents: pva/25/12

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>NOS</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. Sample MW-11A and MV-4
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received with TB
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	<i>pvt</i>	
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. Add 10ml of water to RP32 (MW-11A)
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	PH 8.5±0.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>pvt</u> Lot # of added preservative <u>12336</u>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased): <u>091012-73</u>		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State <u>PA</u>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: *John Shanks* Date 9/25/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

October 11, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOUTIA GROUNDWATER  
Pace Project No.: 60129750

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 36

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129750

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nebraska Certification #: Pace  
Nevada Certification #: MN\_00064  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129750

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129750001	MW-13-092512	Water	09/25/12 09:07	09/26/12 07:50
60129750002	MW-23-092512	Water	09/25/12 10:00	09/26/12 07:50
60129750003	MW-9-092512	Water	09/25/12 11:10	09/26/12 07:50
60129750004	OBW-1-092512	Water	09/25/12 12:50	09/26/12 07:50
60129750005	MW-19-092512	Water	09/25/12 14:30	09/26/12 07:50
60129750006	TB-2	Water	09/25/12 00:00	09/26/12 07:50

## REPORT OF LABORATORY ANALYSIS

Page 3 of 36

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129750001	MW-13-092512	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129750002	MW-23-092512	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60129750003	MW-9-092512	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60129750004	OBW-1-092512	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JKL	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129750

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129750005	MW-19-092512	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
60129750006	TB-2	EPA 5030B/8260	PRG	22	PASI-K

### REPORT OF LABORATORY ANALYSIS

Page 5 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-13-092512	Lab ID: 60129750001	Collected: 09/25/12 09:07	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 01:33	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 01:33	74-85-1	
Methane	2780 ug/L		6.6	1		09/29/12 01:33	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	12900 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:21	7439-89-6	
Manganese	1420 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:21	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 17:16	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 17:16	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 17:16	75-15-0	
Chlorobenzene	13.9 ug/L		1.0	1		09/27/12 17:16	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 17:16	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 17:16	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:16	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:16	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 17:16	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 17:16	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 17:16	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 17:16	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 17:16	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 17:16	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 17:16	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/27/12 17:16	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 17:16	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	1		09/27/12 17:16	460-00-4	
Dibromofluoromethane (S)	96 %		80-120	1		09/27/12 17:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	95 %		80-120	1		09/27/12 17:16	17060-07-0	
Toluene-d8 (S)	105 %		80-120	1		09/27/12 17:16	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 17:16		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	743 mg/L		20.0	1		09/27/12 11:41		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	2420 mg/L		5.0	1		09/26/12 14:27		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		09/27/12 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.066 mg/L		0.050	1		10/02/12 16:40	18496-25-8	

Date: 10/11/2012 11:09 AM

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Page 6 of 36



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-13-092512	Lab ID: 60129750001	Collected: 09/25/12 09:07	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	708 mg/L		100	100		10/02/12 15:55	16887-00-6	
Sulfate	1.8 mg/L		1.0	1		10/02/12 15:38	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/26/12 11:40		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/26/12 11:40		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/26/12 11:40		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.9 mg/L		1.0	1		09/29/12 15:51	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	691 mg/L		20.0	1		09/27/12 11:41	124-38-9	

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Page 7 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-23-092512	Lab ID: 60129750002	Collected: 09/25/12 10:00	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 01:43	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 01:43	74-85-1	
Methane	23.1 ug/L		6.6	1		09/29/12 01:43	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	452 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:23	7439-89-6	
Manganese	101 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:23	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 17:32	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 17:32	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 17:32	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		09/27/12 17:32	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 17:32	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 17:32	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:32	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:32	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 17:32	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 17:32	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 17:32	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 17:32	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 17:32	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 17:32	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 17:32	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/27/12 17:32	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 17:32	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	1		09/27/12 17:32	460-00-4	
Dibromofluoromethane (S)	96 %		80-120	1		09/27/12 17:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		09/27/12 17:32	17060-07-0	
Toluene-d8 (S)	106 %		80-120	1		09/27/12 17:32	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 17:32		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	193 mg/L		20.0	1		09/27/12 11:45		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	297 mg/L		5.0	1		09/26/12 14:27		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.0 Std. Units		0.10	1		09/27/12 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:40	18496-25-8	

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Page 8 of 36

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-23-092512	Lab ID: 60129750002	Collected: 09/25/12 10:00	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	19.3 mg/L		1.0	1		10/02/12 17:22	16887-00-6	
Sulfate	5.7 mg/L		1.0	1		10/02/12 17:22	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/26/12 11:41		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/26/12 11:41		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/26/12 11:41		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	7.5 mg/L		1.0	1		09/29/12 16:05	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	174 mg/L		20.0	1		09/27/12 11:41	124-38-9	

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Page 9 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-9-092512	Lab ID: 60129750003	Collected: 09/25/12 11:10	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		09/29/12 01:54	74-84-0	
Ethene	ND ug/L		6.2	1		09/29/12 01:54	74-85-1	
Methane	15.1 ug/L		6.6	1		09/29/12 01:54	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	6870 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:25	7439-89-6	
Manganese	1060 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:25	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/27/12 17:47	67-64-1	
Benzene	ND ug/L		1.0	1		09/27/12 17:47	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/27/12 17:47	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		09/27/12 17:47	108-90-7	
Chloroform	ND ug/L		1.0	1		09/27/12 17:47	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/27/12 17:47	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:47	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/27/12 17:47	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/27/12 17:47	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/27/12 17:47	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/27/12 17:47	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/27/12 17:47	127-18-4	
Toluene	ND ug/L		1.0	1		09/27/12 17:47	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/27/12 17:47	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/27/12 17:47	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/27/12 17:47	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/27/12 17:47	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	1		09/27/12 17:47	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		09/27/12 17:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		80-120	1		09/27/12 17:47	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		09/27/12 17:47	2037-26-5	
Preservation pH	1.0		0.10	1		09/27/12 17:47		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	363 mg/L		20.0	1		09/27/12 11:51		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	657 mg/L		5.0	1		09/26/12 14:27		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		09/27/12 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:40	18496-25-8	

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Page 10 of 36



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-9-092512	Lab ID: 60129750003	Collected: 09/25/12 11:10	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	55.3 mg/L		10.0	10		10/02/12 17:40	16887-00-6	
Sulfate	105 mg/L		10.0	10		10/02/12 17:40	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/26/12 11:42		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/26/12 11:42		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/26/12 11:42		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	4.1 mg/L		1.0	1		09/29/12 16:19	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	338 mg/L		20.0	1		09/27/12 11:41	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 11 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: OBW-1-092512	Lab ID: 60129750004	Collected: 09/25/12 12:50	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	10.4	ug/L	6.2	1		09/29/12 02:05	74-84-0	
Ethene	48.0	ug/L	6.2	1		09/29/12 02:05	74-85-1	
Methane	303	ug/L	6.6	1		09/29/12 02:05	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	3090	ug/L	50.0	1	09/28/12 12:00	10/01/12 15:27	7439-89-6	
Manganese	2340	ug/L	5.0	1	09/28/12 12:00	10/01/12 15:27	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	5000	500		09/27/12 18:03	67-64-1	
Benzene	ND	ug/L	500	500		09/27/12 18:03	71-43-2	
Carbon disulfide	ND	ug/L	2500	500		09/27/12 18:03	75-15-0	
Chlorobenzene	2630	ug/L	500	500		09/27/12 18:03	108-90-7	
Chloroform	ND	ug/L	500	500		09/27/12 18:03	67-66-3	
1,2-Dichloroethane	ND	ug/L	500	500		09/27/12 18:03	107-06-2	
cis-1,2-Dichloroethene	125000	ug/L	5000	5000		09/28/12 23:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500	500		09/27/12 18:03	156-60-5	
Ethylbenzene	ND	ug/L	500	500		09/27/12 18:03	100-41-4	
Iodomethane	ND	ug/L	5000	500		09/27/12 18:03	74-88-4	
Methylene chloride	ND	ug/L	500	500		09/27/12 18:03	75-09-2	
Tetrachloroethene	19700	ug/L	500	500		09/27/12 18:03	127-18-4	
Toluene	ND	ug/L	500	500		09/27/12 18:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	500	500		09/27/12 18:03	71-55-6	
Trichloroethene	38400	ug/L	500	500		09/27/12 18:03	79-01-6	
Vinyl chloride	962	ug/L	500	500		09/27/12 18:03	75-01-4	
Xylene (Total)	ND	ug/L	1500	500		09/27/12 18:03	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101	%	80-120	500		09/27/12 18:03	460-00-4	
Dibromofluoromethane (S)	97	%	80-120	500		09/27/12 18:03	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	80-120	500		09/27/12 18:03	17060-07-0	
Toluene-d8 (S)	98	%	80-120	500		09/27/12 18:03	2037-26-5	
Preservation pH	1.0		0.10	500		09/27/12 18:03		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	706	mg/L	20.0	1		09/27/12 11:59		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	2780	mg/L	5.0	1		09/26/12 14:27		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		09/27/12 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	15.3	mg/L	0.50	10		10/02/12 17:15	18496-25-8	

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### REPORT OF LABORATORY ANALYSIS

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Page 12 of 36



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: OBW-1-092512	Lab ID: 60129750004	Collected: 09/25/12 12:50	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	676 mg/L		100	100		10/02/12 18:14	16887-00-6	
Sulfate	5.6 mg/L		1.0	1		10/02/12 17:57	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/26/12 11:43		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/26/12 11:43		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/26/12 11:43		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	406 mg/L		10.0	10		10/10/12 08:45	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	733 mg/L		20.0	1		09/27/12 11:41	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 13 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-19-092512	Lab ID: 60129750005	Collected: 09/25/12 14:30	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	34.3	ug/L	6.2	1		09/29/12 02:15	74-84-0	
Ethene	ND	ug/L	6.2	1		09/29/12 02:15	74-85-1	
Methane	1000	ug/L	6.6	1		09/29/12 02:15	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	3360	ug/L	50.0	1	09/28/12 12:00	10/01/12 15:29	7439-89-6	
Manganese	3020	ug/L	5.0	1	09/28/12 12:00	10/01/12 15:29	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	500	50		10/01/12 12:44	67-64-1	
Benzene	ND	ug/L	50.0	50		10/01/12 12:44	71-43-2	
Carbon disulfide	ND	ug/L	250	50		10/01/12 12:44	75-15-0	
Chlorobenzene	28700	ug/L	250	250		09/29/12 17:07	108-90-7	
Chloroform	ND	ug/L	50.0	50		10/01/12 12:44	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	50		10/01/12 12:44	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		10/01/12 12:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	50.0	50		10/01/12 12:44	156-60-5	
Ethylbenzene	ND	ug/L	50.0	50		10/01/12 12:44	100-41-4	
Iodomethane	ND	ug/L	500	50		10/01/12 12:44	74-88-4	
Methylene chloride	ND	ug/L	50.0	50		10/01/12 12:44	75-09-2	
Tetrachloroethene	ND	ug/L	50.0	50		10/01/12 12:44	127-18-4	
Toluene	ND	ug/L	50.0	50		10/01/12 12:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	50.0	50		10/01/12 12:44	71-55-6	
Trichloroethene	ND	ug/L	50.0	50		10/01/12 12:44	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		10/01/12 12:44	75-01-4	
Xylene (Total)	ND	ug/L	150	50		10/01/12 12:44	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	50		10/01/12 12:44	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	50		10/01/12 12:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-120	50		10/01/12 12:44	17060-07-0	
Toluene-d8 (S)	99 %		80-120	50		10/01/12 12:44	2037-26-5	
Preservation pH	1.0		0.10	50		10/01/12 12:44		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	541	mg/L	20.0	1		09/27/12 12:05		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	825	mg/L	5.0	1		09/26/12 14:28		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/27/12 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/02/12 16:46	18496-25-8	

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Page 14 of 36

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: MW-19-092512	Lab ID: 60129750005	Collected: 09/25/12 14:30	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	112 mg/L		10.0	10		10/02/12 18:49	16887-00-6	
Sulfate	8.1 mg/L		1.0	1		10/02/12 18:32	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/26/12 11:45		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/26/12 11:45		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/26/12 11:45		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	47.9 mg/L		1.0	1		09/29/12 16:48	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	544 mg/L		20.0	1		09/27/12 11:41	124-38-9	

Date: 10/11/2012 11:09 AM

## REPORT OF LABORATORY ANALYSIS

Page 15 of 36

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Sample: TB-2	Lab ID: 60129750006	Collected: 09/25/12 00:00	Received: 09/26/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		09/29/12 15:38	67-64-1	
Benzene	ND ug/L		1.0	1		09/29/12 15:38	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/29/12 15:38	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		09/29/12 15:38	108-90-7	
Chloroform	ND ug/L		1.0	1		09/29/12 15:38	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/29/12 15:38	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/29/12 15:38	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/29/12 15:38	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		09/29/12 15:38	100-41-4	
Iodomethane	ND ug/L		10.0	1		09/29/12 15:38	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/29/12 15:38	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/29/12 15:38	127-18-4	
Toluene	ND ug/L		1.0	1		09/29/12 15:38	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/29/12 15:38	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/29/12 15:38	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		09/29/12 15:38	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/29/12 15:38	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	98 %		80-120	1		09/29/12 15:38	460-00-4	
Dibromofluoromethane (S)	111 %		80-120	1		09/29/12 15:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	111 %		80-120	1		09/29/12 15:38	17060-07-0	
Toluene-d8 (S)	97 %		80-120	1		09/29/12 15:38	2037-26-5	
Preservation pH	1.0		0.10	1		09/29/12 15:38		

Date: 10/11/2012 11:09 AM

## REPORT OF LABORATORY ANALYSIS

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Page 16 of 36

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: AIR/15833 Analysis Method: RSK 175

QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1298376 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	09/29/12 00:40	
Ethene	ug/L	ND	6.2	09/29/12 00:40	
Methane	ug/L	ND	6.6	09/29/12 00:40	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1298377 1298378

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	114	103	102	91	90	70-130	1	30	
Ethene	ug/L	106	96.3	95.5	91	90	70-130	.9	30	
Methane	ug/L	60.7	55.7	55.7	92	92	70-130	.02	30	

SAMPLE DUPLICATE: 1299139

Parameter	Units	5069797005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	1.7J		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	9240	9290	.6	30 E	

SAMPLE DUPLICATE: 1299140

Parameter	Units	92132832001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: MPRP/19683 Analysis Method: EPA 6010  
QC Batch Method: EPA 3010 Analysis Description: 6010 MET  
Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1068906 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Iron	ug/L	ND	50.0	10/01/12 15:17	
Manganese	ug/L	ND	5.0	10/02/12 10:39	

LABORATORY CONTROL SAMPLE: 1068907

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Iron	ug/L	10000	9310	93	80-120	
Manganese	ug/L	1000	1010	101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1068908 1068909

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60129866006	Spike	Spike	Result	Result	% Rec						
Iron	ug/L	17900	10000	10000	26100	22000	81	41	75-125	17	20	M1	
Manganese	ug/L	3080	1000	1000	3910	3330	84	25	75-125	16	20	M1	

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**REPORT OF LABORATORY ANALYSIS**

Page 18 of 36

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: MSV/48782 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004

METHOD BLANK: 1068376 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/27/12 13:25	
1,2-Dichloroethane	ug/L	ND	1.0	09/27/12 13:25	
Acetone	ug/L	ND	10.0	09/27/12 13:25	
Benzene	ug/L	ND	1.0	09/27/12 13:25	
Carbon disulfide	ug/L	ND	5.0	09/27/12 13:25	
Chlorobenzene	ug/L	ND	1.0	09/27/12 13:25	
Chloroform	ug/L	ND	1.0	09/27/12 13:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Ethylbenzene	ug/L	ND	1.0	09/27/12 13:25	
Iodomethane	ug/L	ND	10.0	09/27/12 13:25	
Methylene chloride	ug/L	ND	1.0	09/27/12 13:25	
Tetrachloroethene	ug/L	ND	1.0	09/27/12 13:25	
Toluene	ug/L	ND	1.0	09/27/12 13:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Trichloroethene	ug/L	ND	1.0	09/27/12 13:25	
Vinyl chloride	ug/L	ND	1.0	09/27/12 13:25	
Xylene (Total)	ug/L	ND	3.0	09/27/12 13:25	
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/27/12 13:25	
4-Bromofluorobenzene (S)	%	96	80-120	09/27/12 13:25	
Dibromofluoromethane (S)	%	97	80-120	09/27/12 13:25	
Toluene-d8 (S)	%	109	80-120	09/27/12 13:25	

LABORATORY CONTROL SAMPLE: 1068377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.7	84	76-120	
1,2-Dichloroethane	ug/L	20	17.0	85	72-123	
Acetone	ug/L	100	158	158	40-160	
Benzene	ug/L	20	17.2	86	74-123	
Carbon disulfide	ug/L	20	14.9	74	67-135	
Chlorobenzene	ug/L	20	18.5	92	80-120	
Chloroform	ug/L	20	17.3	87	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.2	81	70-120	
Ethylbenzene	ug/L	20	18.9	94	76-123	
Iodomethane	ug/L	20	18.8	94	40-160	
Methylene chloride	ug/L	20	17.5	87	72-127	
Tetrachloroethene	ug/L	20	17.9	89	78-121	
Toluene	ug/L	20	19.4	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	16.7	83	80-129	
Trichloroethene	ug/L	20	17.2	86	74-120	
Vinyl chloride	ug/L	20	15.4	77	50-140	

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Page 19 of 36

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

LABORATORY CONTROL SAMPLE: 1068377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	56.9	95	76-123	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			104	80-120	

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Page 20 of 36



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129750

QC Batch: MSV/48829 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60129750004

METHOD BLANK: 1069402 Matrix: Water

Associated Lab Samples: 60129750004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/28/12 18:48	
1,2-Dichloroethane-d4 (S)	%	92	80-120	09/28/12 18:48	
4-Bromofluorobenzene (S)	%	102	80-120	09/28/12 18:48	
Dibromofluoromethane (S)	%	92	80-120	09/28/12 18:48	
Toluene-d8 (S)	%	96	80-120	09/28/12 18:48	

LABORATORY CONTROL SAMPLE: 1069403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	17.3	86	70-120	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			95	80-120	
Toluene-d8 (S)	%			102	80-120	

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## REPORT OF LABORATORY ANALYSIS

Page 21 of 36

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: MSV/48845

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129750005, 60129750006

METHOD BLANK: 1069688

Matrix: Water

Associated Lab Samples: 60129750005, 60129750006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/29/12 15:24	
1,2-Dichloroethane	ug/L	ND	1.0	09/29/12 15:24	
Acetone	ug/L	ND	10.0	09/29/12 15:24	
Benzene	ug/L	ND	1.0	09/29/12 15:24	
Carbon disulfide	ug/L	ND	5.0	09/29/12 15:24	
Chlorobenzene	ug/L	ND	1.0	09/29/12 15:24	
Chloroform	ug/L	ND	1.0	09/29/12 15:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/29/12 15:24	
Ethylbenzene	ug/L	ND	1.0	09/29/12 15:24	
Iodomethane	ug/L	ND	10.0	09/29/12 15:24	
Methylene chloride	ug/L	ND	1.0	09/29/12 15:24	
Tetrachloroethene	ug/L	ND	1.0	09/29/12 15:24	
Toluene	ug/L	ND	1.0	09/29/12 15:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/29/12 15:24	
Trichloroethene	ug/L	ND	1.0	09/29/12 15:24	
Vinyl chloride	ug/L	ND	1.0	09/29/12 15:24	
Xylene (Total)	ug/L	ND	3.0	09/29/12 15:24	
1,2-Dichloroethane-d4 (S)	%	107	80-120	09/29/12 15:24	
4-Bromofluorobenzene (S)	%	96	80-120	09/29/12 15:24	
Dibromofluoromethane (S)	%	108	80-120	09/29/12 15:24	
Toluene-d8 (S)	%	95	80-120	09/29/12 15:24	

LABORATORY CONTROL SAMPLE: 1069689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.2	111	76-120	
1,2-Dichloroethane	ug/L	20	22.5	113	72-123	
Acetone	ug/L	100	95.5	95	40-160	
Benzene	ug/L	20	20.0	100	74-123	
Carbon disulfide	ug/L	20	19.6	98	67-135	
Chlorobenzene	ug/L	20	20.5	102	80-120	
Chloroform	ug/L	20	20.5	102	77-120	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	70-120	
Ethylbenzene	ug/L	20	19.8	99	76-123	
Iodomethane	ug/L	20	19.3	97	40-160	
Methylene chloride	ug/L	20	20.5	102	72-127	
Tetrachloroethene	ug/L	20	19.6	98	78-121	
Toluene	ug/L	20	19.6	98	75-123	
trans-1,2-Dichloroethene	ug/L	20	22.0	110	80-129	
Trichloroethene	ug/L	20	20.2	101	74-120	
Vinyl chloride	ug/L	20	23.5	117	50-140	

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## REPORT OF LABORATORY ANALYSIS

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Page 22 of 36



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

LABORATORY CONTROL SAMPLE: 1069689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	61.6	103	76-123	
1,2-Dichloroethane-d4 (S)	%			112	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Dibromofluoromethane (S)	%			114	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1069690 1069691

Parameter	Units	MS		MSD		MS	MSD	% Rec	Max		
		60129311012	Result	Spike Conc.	Spike Conc.				RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.071	20	20	24.2	24.7	121	124	62-146	2	32
1,2-Dichloroethane	ug/L	<0.12	20	20	23.1	22.2	115	111	52-146	4	35
Acetone	ug/L	<1.1	100	100	95.9	92.4	96	92	40-151	4	35
Benzene	ug/L	<0.098	20	20	22.0	20.9	110	104	40-155	6	45
Carbon disulfide	ug/L	<0.060	20	20	21.9	21.5	109	107	55-153	2	32
Chlorobenzene	ug/L	0.77J	20	20	20.3	20.3	98	98	54-141	0	31
Chloroform	ug/L	0.13J	20	20	21.7	21.1	108	105	59-138	3	29
cis-1,2-Dichloroethene	ug/L	<0.15	20	20	22.0	20.9	110	105	46-144	5	34
methylbenzene	ug/L	<0.23	20	20	20.7	20.5	103	103	40-158	1	48
Iodomethane	ug/L	<0.18	20	20	19.3	20.3	96	102	40-132	5	44
Methylene chloride	ug/L	<0.24	20	20	20.8	20.6	103	102	60-137	1	28
Tetrachloroethene	ug/L	<0.13	20	20	20.9	21.0	105	105	54-152	1	35
Toluene	ug/L	<0.15	20	20	20.6	20.3	103	102	42-151	2	46
trans-1,2-Dichloroethene	ug/L	<0.23	20	20	23.0	23.0	115	115	66-152	0	30
Trichloroethene	ug/L	<0.12	20	20	21.0	21.5	105	107	51-146	2	34
Vinyl chloride	ug/L	<0.12	20	20	25.9	25.1	129	125	40-160	3	30
Xylene (Total)	ug/L	<0.41	60	60	63.2	62.3	105	104	40-151	2	45
1,2-Dichloroethane-d4 (S)	%						122	107	80-120		S0
4-Bromofluorobenzene (S)	%						101	101	80-120		
Dibromofluoromethane (S)	%						120	115	80-120		
Toluene-d8 (S)	%						96	94	80-120		
Preservation pH		1.0			1.0	1.0				0	

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Page 23 of 36

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch:	MSV/48882	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60129750005		

METHOD BLANK: 1070757                          Matrix: Water

Associated Lab Samples: 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/01/12 12:00	
1,2-Dichloroethane	ug/L	ND	1.0	10/01/12 12:00	
Acetone	ug/L	ND	10.0	10/01/12 12:00	
Benzene	ug/L	ND	1.0	10/01/12 12:00	
Carbon disulfide	ug/L	ND	5.0	10/01/12 12:00	
Chloroform	ug/L	ND	1.0	10/01/12 12:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Ethylbenzene	ug/L	ND	1.0	10/01/12 12:00	
Iodomethane	ug/L	ND	10.0	10/01/12 12:00	
Methylene chloride	ug/L	ND	1.0	10/01/12 12:00	
Tetrachloroethene	ug/L	ND	1.0	10/01/12 12:00	
Toluene	ug/L	ND	1.0	10/01/12 12:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Trichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Vinyl chloride	ug/L	ND	1.0	10/01/12 12:00	
Xylene (Total)	ug/L	ND	3.0	10/01/12 12:00	
1,2-Dichloroethane-d4 (S)	%	101	80-120	10/01/12 12:00	
4-Bromofluorobenzene (S)	%	100	80-120	10/01/12 12:00	
Dibromofluoromethane (S)	%	101	80-120	10/01/12 12:00	
Toluene-d8 (S)	%	101	80-120	10/01/12 12:00	

LABORATORY CONTROL SAMPLE: 1070758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	76-120	
1,2-Dichloroethane	ug/L	20	21.1	106	72-123	
Acetone	ug/L	100	106	106	40-160	
Benzene	ug/L	20	19.8	99	74-123	
Carbon disulfide	ug/L	20	19.4	97	67-135	
Chloroform	ug/L	20	19.5	98	77-120	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	70-120	
Ethylbenzene	ug/L	20	20.5	103	76-123	
Iodomethane	ug/L	20	17.7	88	40-160	
Methylene chloride	ug/L	20	19.4	97	72-127	
Tetrachloroethene	ug/L	20	19.7	99	78-121	
Toluene	ug/L	20	18.9	95	75-123	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	80-129	
Trichloroethene	ug/L	20	20.4	102	74-120	
Vinyl chloride	ug/L	20	21.0	105	50-140	
Xylene (Total)	ug/L	60	59.4	99	76-123	
1,2-Dichloroethane-d4 (S)	%			102	80-120	

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Page 24 of 36



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

LABORATORY CONTROL SAMPLE: 1070758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

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## REPORT OF LABORATORY ANALYSIS

Page 25 of 36

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WET/37340 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1067684 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	09/27/12 09:51	

LABORATORY CONTROL SAMPLE: 1067685

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 1067686

Parameter	Units	60129456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	142	142	0	9	

SAMPLE DUPLICATE: 1067687

Parameter	Units	60129319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	507	524	3	9	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WET/37332 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1067517 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	09/26/12 14:23	

SAMPLE DUPLICATE: 1067518

Parameter	Units	60129472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	988	989	0	17	

SAMPLE DUPLICATE: 1067519

Parameter	Units	60129673004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1190	1200	1	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WET/37366 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

SAMPLE DUPLICATE: 1068449

Parameter	Units	60129741002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

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Page 28 of 36

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WET/37454 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1071295 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/02/12 16:35	

LABORATORY CONTROL SAMPLE: 1071296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.48	96	80-120	

MATRIX SPIKE SAMPLE: 1071299

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	1.0	.5	1.4	76	75-125	

SAMPLE DUPLICATE: 1071297

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	.038J		20	

SAMPLE DUPLICATE: 1071298

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.20	0.20	1	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WETA/21839 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1071197 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/02/12 12:26	
Sulfate	mg/L	ND	1.0	10/02/12 12:26	

LABORATORY CONTROL SAMPLE: 1071198

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE SAMPLE: 1070515

Parameter	Units	60129750001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L		1.8	5	6.5	93	61-119

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WETA/21774 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

METHOD BLANK: 1067302 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750004, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/26/12 11:21	
Nitrogen, Nitrite	mg/L	ND	0.10	09/26/12 11:21	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/26/12 11:21	

LABORATORY CONTROL SAMPLE: 1067303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.40	100	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1067304

Parameter	Units	60129741002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	29.6	16	39.3	61	90-110	M6
Nitrogen, Nitrite	mg/L	ND	4	4.1	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	29.7	20	43.4	69	90-110	M6

MATRIX SPIKE SAMPLE: 1067306

Parameter	Units	60129746007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.41	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	106	90-110	

SAMPLE DUPLICATE: 1067305

Parameter	Units	60129746005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	

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Page 31 of 36

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WETA/21832 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750005

METHOD BLANK: 1069714 Matrix: Water

Associated Lab Samples: 60129750001, 60129750002, 60129750003, 60129750005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	09/29/12 10:40	

LABORATORY CONTROL SAMPLE: 1069715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.6	93	80-120	

MATRIX SPIKE SAMPLE: 1069716

Parameter	Units	60129376001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	1.9	5	7.5	112	80-120	

SAMPLE DUPLICATE: 1069717

Parameter	Units	60129376002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	1.3	1.3	5	25	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

QC Batch: WETA/21968 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60129750004

METHOD BLANK: 1076237 Matrix: Water

Associated Lab Samples: 60129750004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/10/12 07:20	

LABORATORY CONTROL SAMPLE: 1076238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.8	95	80-120	

MATRIX SPIKE SAMPLE: 1076239

Parameter	Units	60129673001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	169	25	207	152	80-120 M1	

MATRIX SPIKE SAMPLE: 1076364

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10.8	5	17.0	124	80-120 M1	

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## REPORT OF LABORATORY ANALYSIS

Page 33 of 36

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## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/48782

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/48829

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/48882

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S0 Surrogate recovery outside laboratory control limits.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129750

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129750001	MW-13-092512	RSK 175	AIR/15833		
60129750002	MW-23-092512	RSK 175	AIR/15833		
60129750003	MW-9-092512	RSK 175	AIR/15833		
60129750004	OBW-1-092512	RSK 175	AIR/15833		
60129750005	MW-19-092512	RSK 175	AIR/15833		
60129750001	MW-13-092512	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129750002	MW-23-092512	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129750003	MW-9-092512	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129750004	OBW-1-092512	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129750005	MW-19-092512	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129750001	MW-13-092512	EPA 5030B/8260	MSV/48782		
60129750002	MW-23-092512	EPA 5030B/8260	MSV/48782		
60129750003	MW-9-092512	EPA 5030B/8260	MSV/48782		
60129750004	OBW-1-092512	EPA 5030B/8260	MSV/48782		
60129750004	OBW-1-092512	EPA 5030B/8260	MSV/48829		
60129750005	MW-19-092512	EPA 5030B/8260	MSV/48845		
60129750005	MW-19-092512	EPA 5030B/8260	MSV/48882		
60129750006	TB-2	EPA 5030B/8260	MSV/48845		
60129750001	MW-13-092512	SM 2320B	WET/37340		
60129750002	MW-23-092512	SM 2320B	WET/37340		
60129750003	MW-9-092512	SM 2320B	WET/37340		
60129750004	OBW-1-092512	SM 2320B	WET/37340		
60129750005	MW-19-092512	SM 2320B	WET/37340		
60129750001	MW-13-092512	SM 2540C	WET/37332		
60129750002	MW-23-092512	SM 2540C	WET/37332		
60129750003	MW-9-092512	SM 2540C	WET/37332		
60129750004	OBW-1-092512	SM 2540C	WET/37332		
60129750005	MW-19-092512	SM 2540C	WET/37332		
60129750001	MW-13-092512	SM 4500-H+B	WET/37366		
60129750002	MW-23-092512	SM 4500-H+B	WET/37366		
60129750003	MW-9-092512	SM 4500-H+B	WET/37366		
60129750004	OBW-1-092512	SM 4500-H+B	WET/37366		
60129750005	MW-19-092512	SM 4500-H+B	WET/37366		
60129750001	MW-13-092512	SM 4500-S-2 D	WET/37454		
60129750002	MW-23-092512	SM 4500-S-2 D	WET/37454		
60129750003	MW-9-092512	SM 4500-S-2 D	WET/37454		
60129750004	OBW-1-092512	SM 4500-S-2 D	WET/37454		
60129750005	MW-19-092512	SM 4500-S-2 D	WET/37454		
60129750001	MW-13-092512	EPA 300.0	WETA/21839		
60129750002	MW-23-092512	EPA 300.0	WETA/21839		
60129750003	MW-9-092512	EPA 300.0	WETA/21839		
60129750004	OBW-1-092512	EPA 300.0	WETA/21839		
60129750005	MW-19-092512	EPA 300.0	WETA/21839		

Date: 10/11/2012 11:09 AM

**REPORT OF LABORATORY ANALYSIS**

Page 35 of 36

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129750

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129750001	MW-13-092512	EPA 353.2	WETA/21774		
60129750002	MW-23-092512	EPA 353.2	WETA/21774		
60129750003	MW-9-092512	EPA 353.2	WETA/21774		
60129750004	OBW-1-092512	EPA 353.2	WETA/21774		
60129750005	MW-19-092512	EPA 353.2	WETA/21774		
60129750001	MW-13-092512	SM 5310C	WETA/21832		
60129750002	MW-23-092512	SM 5310C	WETA/21832		
60129750003	MW-9-092512	SM 5310C	WETA/21832		
60129750004	OBW-1-092512	SM 5310C	WETA/21968		
60129750005	MW-19-092512	SM 5310C	WETA/21832		
60129750001	MW-13-092512	SM 4500-CO2 D	WETA/21991		
60129750002	MW-23-092512	SM 4500-CO2 D	WETA/21991		
60129750003	MW-9-092512	SM 4500-CO2 D	WETA/21991		
60129750004	OBW-1-092512	SM 4500-CO2 D	WETA/21991		
60129750005	MW-19-092512	SM 4500-CO2 D	WETA/21991		



05 October 2012

Jamie Slade  
Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa, KS 66219

RE: PAS Subcontract-JS

60129750

Enclosed are the results of analyses for samples received by the laboratory on 09/27/12 10:00. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

**ANALYTICAL REPORT FOR SAMPLES**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 3-092512	II21523-01	Water	09/25/12 09:07	09/27/12 10:00
MW-23-092512	II21523-02	Water	09/25/12 10:00	09/27/12 10:00
MW-9-092512	II21523-03	Water	09/25/12 11:10	09/27/12 10:00
MW-19-092512	II21523-04	Water	09/25/12 14:30	09/27/12 10:00

Client Supplied Containers

*The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.*

Page 1 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**Chain of Custody**

1121523

Results Requested 10/3/2012					
SOLUTIA GROUNDWATER					
Workorder #	Workorder Name:	P.O. SUB-6472	Sample ID	None	LAB USE ONLY
1	MNW-13-092512	9/25/2012 09:07	60129750001	Water	2
2	MNW-23-092512	9/25/2012 10:00	60129750002	Water	2
3	MNW-9-092512	9/25/2012 11:10	60129750003	Water	2
4	MNW-19-092512	9/25/2012 14:30	60129750005	Water	2
5					
Transfers	Released By	Date/Time	Received By	Date/Time	
1	<i>Jamie Slade</i>	9/24/12 1:30	<i>Jamie Slade</i>	9/27/12 10:00	
2					
3					
Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N		

Wednesday, September 26, 2012 1:18:55 PM

Page 1 of 1

FMT-ALL-C-002rev.00 24March2009

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 2 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**MW-1 3-092512**

**1I21523-01 (Water)**

**Date Sampled: 9/25/2012 9:07:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	ND	0.10	ug/L	1	1VJ0045	10/01/12	10/03/12 13:20	EPA 8141	
Surrogate: 2-Nitro-m-xylene		101 %		45-134	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 3 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**MW-23-092512**

**1I21523-02 (Water)**

**Date Sampled: 9/25/2012 10:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	2.33	0.10	ug/L	1	IVJ0045	10/01/12	10/03/12 13:59	EPA 8141	
Surrogate: 2-Nitro-m-xylene		109 %		45-134	"	"	"	"	



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**MW-9-092512**

**II21523-03 (Water)**

**Date Sampled: 9/25/2012 11:10:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	ND	0.10	ug/L	1	1VJ0045	10/01/12	10/03/12 14:38	EPA 8141	
Surrogate: 2-Nitro-m-xylene		109 %		45-134	"	"	"	"	



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**MW-19-092512**

**1I21523-04 (Water)**

**Date Sampled: 9/25/2012 2:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	ND	0.10	ug/L	1	1VJ0045	10/01/12	10/03/12 15:18	EPA 8141	
Surrogate: 2-Nitro-m-xylene		73.8 %		45-134	"	"	"	"	



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control**

**Keystone Laboratories, Inc. - Newton**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

**Batch 1VJ0045 - 3510C NP/OC Sep Fnl**

**Blank (1VJ0045-BLK1)**

Prepared: 10/01/12 Analyzed: 10/03/12

Alachlor	ND	0.10	ug/L							
----------	----	------	------	--	--	--	--	--	--	--

Surrogate: 2-Nitro-m-xylene

9.76 " 9.82400 99.4 45-134

**LCS (1VJ0045-BS1)**

Prepared: 10/01/12 Analyzed: 10/03/12

Alachlor	3.425	0.10	ug/L	2.75000	125	57-143				
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Surrogate: 2-Nitro-m-xylene

10.1 " 9.82400 103 45-134

**LCS Dup (1VJ0045-BSD1)**

Prepared: 10/01/12 Analyzed: 10/03/12

Alachlor	3.165	0.10	ug/L	2.75000	115	57-143	7.89	30		
----------	-------	------	------	---------	-----	--------	------	----	--	--

Surrogate: 2-Nitro-m-xylene

10.6 " 9.82400 108 45-134

**Reference (1VJ0045-SRM1)**

Prepared: 10/01/12 Analyzed: 10/03/12

Alachlor	3.510	0.10	ug/L	2.75000	128	70-130				
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Surrogate: 2-Nitro-m-xylene

12.0 " 9.82400 122 45-134

**Certified Analyses Included in This Report**

Method/Matrix	Analyte	Certifications
---------------	---------	----------------

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2013
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2012
MO-KC	Missouri Department of Natural Resources	140	04/30/2013
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2013
SIA1X	Iowa Department of Natural Resources	95	02/01/2014

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 7 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



MEMBER  
ACIL

Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60129750  
Project Manager: Jamie Slade

Reported  
10/05/12 09:11

Sue Thompson  
Project Manager II

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 9 of 9



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information

Company Environmental Operations

**Section B**

Required Project Information

Report To Larry Rosen

**Section C**

Invoice Information:

 Page:  of 

Address 1530 S. Second St. Ste. 200

St. Louis, MO 63104

Email To larry@environmentalops.com

Phone 314-241-0900 Fax 314-436-2900

Requested Due Date/TAT:

Copy To

Purchase Order No

Project Name Solutia Groundwater

Project Number 2950

Attention

Company Name

Address

Pace Quote Reference

Pace Project Manager Jamie Slade

Pace Profile #

**REGULATORY AGENCY**
 NPDES  GROUND WATER  DRINKING WATER

 UST  RCRA  OTHER  POTW

 STATE: MO

ITEM #	Section D Required Client Information	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/Soil SL Oil OL Wipe WP Air AR Other OT Tissue TS	MATRIX CODE (See Valid Matrix to left) SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB					Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	methanol	Other	Analysis Test	Y/N				
1	MW-13 - 092512 3009H	WT G	246116, 182409/25/12	9:07	11	5	1	1	3	1	AG35	X	X	X	X	X	X	X	X	X	X	X	X	15108327-5 3V67u 61	
2	MW-23 - 092512	WT G		10:00	11	5	1	1	3	1		X	X	X	X	X	X	X	X	X	X	X	X	ph9.5 62	
3	MW-9 - 092512	WT G	↓	11:10	11	5	1	1	3	1		X	X	X	X	X	X	X	X	X	X	X	X	63	
4	ORW-1 - 092512	WT G		12:50	9	3	1	1	3	1		X	X	X	X	X	X	X	X	X	X	X	X	64	
5	MW-19 - 092512 ↓	WT G	246116 ↓	14:30	11	5	1	1	3	1	↓	X	X	X	X	X	X	X	X	X	X	X	X	65	
6	TB-2 = 092512 2009HGB	WT G		LAB	2	5	1	1	3	1	↑	X												66	
7		WT G																							
8		WT G																							
9		WT G																							
10		WT G																							
11		WT G																							
12		WT G																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
<i>R. Andrews / EOT</i>	9-25-12 16:00	Courier	<i>E. Brocklett</i>	9/26 0750 4:40			5-0	✓	✓	✓

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER: <i>Robert Andrews</i>			
SIGNATURE of SAMPLER: <i>Robert Andrews</i> DATE Signed (MM/DD/YY): 09/25/12			
Temp °C	Received on site (Y/N)	Custody Sealed/Cooler (Y/N)	Sample Inact (Y/N)



## Sample Condition Upon Receipt

Client Name: Env. ops Project # 60129750

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other VIA

Tracking #: \_\_\_\_\_

Pace Shipping Label Used?

Yes  No

Custody Seal on Cooler/Box Present:

Yes  No Seals intact:  Yes  No

Optional	
Proj. Due Date:	<u>6/13</u>
Proj. Name:	<u>60129750</u>

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other \_\_\_\_\_

Thermometer Used: T-191 / T-194

Type of Ice: Wet Blue None

Samples on ice, cooling process has begun

Cooler Temperature: 4.6, 5.0

Temperature should be above freezing to 6°C

Comments: \_\_\_\_\_

Date and Initials of person examining contents: 9/26/12

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>No<sup>2</sup></u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	<u>WT</u>	
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. MW-13, BP32 ph 7.5, Added 2.5 mL Naoh, f.naph 12.0
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>9/26/12</u> Lot # of added preservative <u>12336</u>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased): <u>Q11012-3</u>		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State: <u>VA</u>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_

9/26/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

October 12, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOUTIA GROUNDWATER  
Pace Project No.: 60129866

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 55

PacePackage P. 1 of 58

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nebraska Certification #: Pace  
Nevada Certification #: MN\_00064  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

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Page 2 of 55

## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129866001	OBW-2-092612	Water	09/26/12 14:20	09/27/12 07:45
60129866002	LPZ-5-092612	Water	09/26/12 13:10	09/27/12 07:45
60129866003	LPZ-4-092612	Water	09/26/12 09:55	09/27/12 07:45
60129866004	LPZ-2-092612	Water	09/26/12 09:10	09/27/12 07:45
60129866005	REC-4-092612	Water	09/26/12 14:40	09/27/12 07:45
60129866006	REC-1-092612	Water	09/26/12 13:30	09/27/12 07:45
60129866007	MW-3-092612	Water	09/26/12 12:15	09/27/12 07:45
60129866008	MW-39B-092612	Water	09/26/12 11:00	09/27/12 07:45
60129866009	MW-39B-092612-AD	Water	09/26/12 11:10	09/27/12 07:45
60129866010	MW-39A-092612-AD	Water	09/26/12 10:00	09/27/12 07:45
60129866011	MW-39A-092612	Water	09/26/12 09:50	09/27/12 07:45
60129866012	OBW-3-092612	Water	09/26/12 08:45	09/27/12 07:45
60129866013	TB-3	Water	09/26/12 00:00	09/27/12 07:45

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129866001	OBW-2-092612	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129866002	LPZ-5-092612	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60129866003	LPZ-4-092612	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60129866004	-092612	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
60129866005	-092612	EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

## REPORT OF LABORATORY ANALYSIS

Page 4 of 55

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129866005	REC-4-092612	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
60129866006	REC-1-092612	EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129866007	MW-3-092612	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129866008	MW-39B-092612	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
60129866009	MW-39B-092612-AD	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
60129866010	MW-39A-092612-AD	EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		RSK 175	SK4	3	PASI-M
60129866011	MW-39A-092612				

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Page 6 of 55

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129866

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129866012	OBW-3-092612	EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
60129866013	TB-3	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: OBW-2-092612 Lab ID: 60129866001 Collected: 09/26/12 14:20 Received: 09/27/12 07:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 19:07	74-84-0	
Ethene	10.9 ug/L		6.2	1		10/02/12 19:07	74-85-1	
Methane	24.9 ug/L		6.6	1		10/02/12 19:07	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	940 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:31	7439-89-6	
Manganese	23.0 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:31	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		2000	200		09/30/12 19:00	67-64-1	
Benzene	ND ug/L		200	200		09/30/12 19:00	71-43-2	
Carbon disulfide	ND ug/L		1000	200		09/30/12 19:00	75-15-0	
Chlorobenzene	39000 ug/L		1000	1000		10/01/12 19:52	108-90-7	
Chloroform	ND ug/L		200	200		09/30/12 19:00	67-66-3	
1,2-Dichloroethane	ND ug/L		200	200		09/30/12 19:00	107-06-2	
cis-1,2-Dichloroethene	45400 ug/L		1000	1000		10/01/12 19:52	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		200	200		09/30/12 19:00	156-60-5	
Methylbenzene	ND ug/L		200	200		09/30/12 19:00	100-41-4	
Dimethane	ND ug/L		2000	200		09/30/12 19:00	74-88-4	
Methylene chloride	ND ug/L		200	200		09/30/12 19:00	75-09-2	
Tetrachloroethene	180000 ug/L		1000	1000		10/01/12 19:52	127-18-4	
Toluene	3920 ug/L		200	200		09/30/12 19:00	108-88-3	
1,1,1-Trichloroethane	ND ug/L		200	200		09/30/12 19:00	71-55-6	
Trichloroethene	7960 ug/L		200	200		09/30/12 19:00	79-01-6	
Vinyl chloride	ND ug/L		200	200		09/30/12 19:00	75-01-4	
Xylene (Total)	ND ug/L		600	200		09/30/12 19:00	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	200		09/30/12 19:00	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	200		09/30/12 19:00	1868-53-7	
1,2-Dichloroethane-d4 (S)	95 %		80-120	200		09/30/12 19:00	17060-07-0	
Toluene-d8 (S)	102 %		80-120	200		09/30/12 19:00	2037-26-5	
Preservation pH	1.0		0.10	200		09/30/12 19:00		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	264 mg/L		20.0	1		09/29/12 08:50		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	489 mg/L		5.0	1		09/28/12 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.051 mg/L		0.050	1		10/02/12 16:47	18496-25-8	

Date: 10/12/2012 04:26 PM

## REPORT OF LABORATORY ANALYSIS

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Page 8 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: OBW-2-092612	Lab ID: 60129866001	Collected: 09/26/12 14:20	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	96.0	mg/L	20.0	20		10/02/12 22:53	16887-00-6	
Sulfate	32.1	mg/L	2.0	2		10/03/12 16:22	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 11:30		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 11:30		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 11:30		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	5.2	mg/L	1.0	1		10/11/12 07:59	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	265	mg/L	20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: LPZ-5-092612	Lab ID: 60129866002	Collected: 09/26/12 13:10	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 19:17	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 19:17	74-85-1	
Methane	22.0 ug/L		6.6	1		10/02/12 19:17	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	713 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:34	7439-89-6	
Manganese	505 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:34	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		50.0	5		10/01/12 21:25	67-64-1	
Benzene	ND ug/L		5.0	5		10/01/12 21:25	71-43-2	
Carbon disulfide	ND ug/L		25.0	5		10/01/12 21:25	75-15-0	
Chlorobenzene	15.0 ug/L		5.0	5		10/01/12 21:25	108-90-7	
Chloroform	ND ug/L		5.0	5		10/01/12 21:25	67-66-3	
1,2-Dichloroethane	ND ug/L		5.0	5		10/01/12 21:25	107-06-2	
cis-1,2-Dichloroethene	113 ug/L		5.0	5		10/01/12 21:25	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	5		10/01/12 21:25	156-60-5	
Phylbenzene	ND ug/L		5.0	5		10/01/12 21:25	100-41-4	
Dimethane	ND ug/L		50.0	5		10/01/12 21:25	74-88-4	
Methylene chloride	ND ug/L		5.0	5		10/01/12 21:25	75-09-2	
Tetrachloroethene	ND ug/L		5.0	5		10/01/12 21:25	127-18-4	
Toluene	3000 ug/L		25.0	25		10/02/12 21:07	108-88-3	
1,1,1-Trichloroethane	ND ug/L		5.0	5		10/01/12 21:25	71-55-6	
Trichloroethene	6.3 ug/L		5.0	5		10/01/12 21:25	79-01-6	
Vinyl chloride	11.6 ug/L		5.0	5		10/01/12 21:25	75-01-4	
Xylene (Total)	ND ug/L		15.0	5		10/01/12 21:25	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105 %		80-120	5		10/01/12 21:25	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	5		10/01/12 21:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	5		10/01/12 21:25	17060-07-0	
Toluene-d8 (S)	97 %		80-120	5		10/01/12 21:25	2037-26-5	
Preservation pH	1.0		0.10	5		10/01/12 21:25		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	248 mg/L		20.0	1		09/29/12 08:54		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	349 mg/L		5.0	1		09/28/12 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.5 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.45 mg/L		0.050	1		10/02/12 16:47	18496-25-8	

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Page 10 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: LPZ-5-092612	Lab ID: 60129866002	Collected: 09/26/12 13:10	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	21.2	mg/L	2.0	2		10/03/12 16:39	16887-00-6	
Sulfate	23.1	mg/L	2.0	2		10/03/12 16:39	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 11:16		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 11:16		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 11:16		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	21.9	mg/L	1.0	1		10/11/12 08:13	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	234	mg/L	20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Sample: LPZ-4-092612	Lab ID: 60129866003	Collected: 09/26/12 09:55	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 19:28	74-84-0	
Ethene	169 ug/L		6.2	1		10/02/12 19:28	74-85-1	
Methane	1130 ug/L		6.6	1		10/02/12 19:28	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	11400 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:36	7439-89-6	
Manganese	200 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:36	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		500	50		10/01/12 21:41	67-64-1	
Benzene	ND ug/L		50.0	50		10/01/12 21:41	71-43-2	
Carbon disulfide	ND ug/L		250	50		10/01/12 21:41	75-15-0	
Chlorobenzene	511 ug/L		50.0	50		10/01/12 21:41	108-90-7	
Chloroform	ND ug/L		50.0	50		10/01/12 21:41	67-66-3	
1,2-Dichloroethane	ND ug/L		50.0	50		10/01/12 21:41	107-06-2	
cis-1,2-Dichloroethene	1690 ug/L		50.0	50		10/01/12 21:41	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		50.0	50		10/01/12 21:41	156-60-5	
methylbenzene	ND ug/L		50.0	50		10/01/12 21:41	100-41-4	
Dimethane	ND ug/L		500	50		10/01/12 21:41	74-88-4	
Methylene chloride	ND ug/L		50.0	50		10/01/12 21:41	75-09-2	
Tetrachloroethene	278 ug/L		50.0	50		10/01/12 21:41	127-18-4	
Toluene	37900 ug/L		500	500		10/02/12 21:22	108-88-3	
1,1,1-Trichloroethane	ND ug/L		50.0	50		10/01/12 21:41	71-55-6	
Trichloroethene	202 ug/L		50.0	50		10/01/12 21:41	79-01-6	
Vinyl chloride	372 ug/L		50.0	50		10/01/12 21:41	75-01-4	
Xylene (Total)	ND ug/L		150	50		10/01/12 21:41	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	50		10/01/12 21:41	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	50		10/01/12 21:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	50		10/01/12 21:41	17060-07-0	
Toluene-d8 (S)	97 %		80-120	50		10/01/12 21:41	2037-26-5	
Preservation pH	1.0		0.10	50		10/01/12 21:41		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1180 mg/L		120	1		09/29/12 09:06		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1460 mg/L		5.0	1		09/28/12 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	9.2 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.50	10		10/02/12 17:06	18496-25-8	D3

Date: 10/12/2012 04:26 PM

## REPORT OF LABORATORY ANALYSIS

Page 12 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: LPZ-4-092612	Lab ID: 60129866003	Collected: 09/26/12 09:55	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	107 mg/L		20.0	20		10/03/12 00:03	16887-00-6	
Sulfate	93.6 mg/L		20.0	20		10/03/12 00:03	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		1.0	10		09/27/12 17:30		D3
Nitrogen, Nitrite	ND mg/L		1.0	10		09/27/12 17:30		D3
Nitrogen, NO2 plus NO3	ND mg/L		1.0	10		09/27/12 17:30		D3
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	77.8 mg/L		2.0	2		10/11/12 08:27	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	824 mg/L		20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: LPZ-2-092612	Lab ID: 60129866004	Collected: 09/26/12 09:10	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 19:38	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 19:38	74-85-1	
Methane	1890 ug/L		6.6	1		10/02/12 19:38	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	4660 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:42	7439-89-6	
Manganese	1160 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:42	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	19.3 ug/L		10.0	1		09/30/12 19:46	67-64-1	
Benzene	7.2 ug/L		1.0	1		09/30/12 19:46	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		09/30/12 19:46	75-15-0	
Chlorobenzene	7.7 ug/L		1.0	1		09/30/12 19:46	108-90-7	
Chloroform	ND ug/L		1.0	1		09/30/12 19:46	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		09/30/12 19:46	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		09/30/12 19:46	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		09/30/12 19:46	156-60-5	
Phenylbenzene	ND ug/L		1.0	1		09/30/12 19:46	100-41-4	
Dimethylbenzene	ND ug/L		10.0	1		09/30/12 19:46	74-88-4	
Methylene chloride	ND ug/L		1.0	1		09/30/12 19:46	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		09/30/12 19:46	127-18-4	
Toluene	101 ug/L		1.0	1		09/30/12 19:46	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		09/30/12 19:46	71-55-6	
Trichloroethene	ND ug/L		1.0	1		09/30/12 19:46	79-01-6	
Vinyl chloride	3.0 ug/L		1.0	1		09/30/12 19:46	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		09/30/12 19:46	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	1		09/30/12 19:46	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		09/30/12 19:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		80-120	1		09/30/12 19:46	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		09/30/12 19:46	2037-26-5	
Preservation pH	1.0		0.10	1		09/30/12 19:46		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	626 mg/L		20.0	1		09/29/12 09:12		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	815 mg/L		5.0	1		09/28/12 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.20 mg/L		0.050	1		10/02/12 16:47	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

Page 14 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: LPZ-2-092612	Lab ID: 60129866004	Collected: 09/26/12 09:10	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	30.5	mg/L	2.0	2		10/03/12 17:14	16887-00-6	
Sulfate	1.3	mg/L	1.0	1		10/03/12 16:56	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/27/12 17:21		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/27/12 17:21		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/27/12 17:21		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	32.9	mg/L	1.0	1		10/11/12 08:41	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	629	mg/L	20.0	1		09/29/12 10:00	124-38-9	



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: REC-4-092612	Lab ID: 60129866005	Collected: 09/26/12 14:40	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	248	ug/L	6.2	1		10/02/12 19:49	74-84-0	
Ethene	157	ug/L	6.2	1		10/02/12 19:49	74-85-1	
Methane	352	ug/L	6.6	1		10/02/12 19:49	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	39700	ug/L	50.0	1	09/28/12 12:00	10/01/12 15:44	7439-89-6	
Manganese	2710	ug/L	5.0	1	09/28/12 12:00	10/01/12 15:44	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		09/30/12 20:02	67-64-1	
Benzene	9.2	ug/L	1.0	1		09/30/12 20:02	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		09/30/12 20:02	75-15-0	
Chlorobenzene	1060	ug/L	200	200		10/01/12 20:08	108-90-7	
Chloroform	ND	ug/L	1.0	1		09/30/12 20:02	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/30/12 20:02	107-06-2	
cis-1,2-Dichloroethene	20800	ug/L	200	200		10/01/12 20:08	156-59-2	
trans-1,2-Dichloroethene	282	ug/L	200	200		10/01/12 20:08	156-60-5	
Phenylbenzene	ND	ug/L	1.0	1		09/30/12 20:02	100-41-4	
Dimethylmethane	ND	ug/L	10.0	1		09/30/12 20:02	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		09/30/12 20:02	75-09-2	
Tetrachloroethene	829	ug/L	200	200		10/01/12 20:08	127-18-4	
Toluene	9.0	ug/L	1.0	1		09/30/12 20:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/30/12 20:02	71-55-6	
Trichloroethene	26500	ug/L	200	200		10/01/12 20:08	79-01-6	
Vinyl chloride	139J	ug/L	200	200		10/01/12 20:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/30/12 20:02	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/30/12 20:02	460-00-4	
Dibromofluoromethane (S)	108	%	80-120	1		09/30/12 20:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	80-120	1		09/30/12 20:02	17060-07-0	
Toluene-d8 (S)	103	%	80-120	1		09/30/12 20:02	2037-26-5	
Preservation pH	1.0		0.10	1		09/30/12 20:02		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	426	mg/L	20.0	1		09/29/12 09:17		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1540	mg/L	5.0	1		09/28/12 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/02/12 16:47	18496-25-8	

Date: 10/12/2012 04:26 PM

## REPORT OF LABORATORY ANALYSIS

Page 16 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: REC-4-092612	Lab ID: 60129866005	Collected: 09/26/12 14:40	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	377 mg/L		20.0	20		10/03/12 00:37	16887-00-6	
Sulfate	279 mg/L		20.0	20		10/03/12 00:37	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/28/12 11:33		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/28/12 11:33		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/28/12 11:33		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.3 mg/L		1.0	1		10/11/12 08:55	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	460 mg/L		20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: REC-1-092612	Lab ID: 60129866006	Collected: 09/26/12 13:30	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 18:35	74-84-0	
Ethene	629 ug/L		6.2	1		10/02/12 18:35	74-85-1	
Methane	3350 ug/L		6.6	1		10/02/12 18:35	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	17900 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:46	7439-89-6	M1
Manganese	3080 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:46	7439-96-5	M1
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		1000	100		10/01/12 21:56	67-64-1	
Benzene	ND ug/L		100	100		10/01/12 21:56	71-43-2	
Carbon disulfide	ND ug/L		500	100		10/01/12 21:56	75-15-0	
Chlorobenzene	4170 ug/L		100	100		10/01/12 21:56	108-90-7	
Chloroform	ND ug/L		100	100		10/01/12 21:56	67-66-3	
1,2-Dichloroethane	ND ug/L		100	100		10/01/12 21:56	107-06-2	
cis-1,2-Dichloroethene	181000 ug/L		1000	1000		09/30/12 20:17	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		100	100		10/01/12 21:56	156-60-5	
Styrene	ND ug/L		100	100		10/01/12 21:56	100-41-4	
Dimethane	ND ug/L		1000	100		10/01/12 21:56	74-88-4	
Methylene chloride	ND ug/L		100	100		10/01/12 21:56	75-09-2	
Tetrachloroethene	984 ug/L		100	100		10/01/12 21:56	127-18-4	
Toluene	ND ug/L		100	100		10/02/12 20:51	108-88-3	
1,1,1-Trichloroethane	ND ug/L		100	100		10/01/12 21:56	71-55-6	
Trichloroethene	370 ug/L		100	100		10/01/12 21:56	79-01-6	
Vinyl chloride	15100 ug/L		100	100		10/01/12 21:56	75-01-4	
Xylene (Total)	ND ug/L		300	100		10/01/12 21:56	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	100		10/01/12 21:56	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	100		10/01/12 21:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		80-120	100		10/01/12 21:56	17060-07-0	
Toluene-d8 (S)	101 %		80-120	100		10/01/12 21:56	2037-26-5	
Preservation pH	1.0		0.10	100		10/01/12 21:56		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	420 mg/L		20.0	1		09/29/12 09:22		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	801 mg/L		5.0	1		09/28/12 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	1.0 mg/L		0.050	1		10/02/12 16:47	18496-25-8	

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Page 18 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: REC-1-092612	Lab ID: 60129866006	Collected: 09/26/12 13:30	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	142	mg/L	20.0	20		10/03/12 00:55	16887-00-6	
Sulfate	2.8	mg/L	1.0	1		10/03/12 17:31	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 11:22		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 11:22		M1
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 11:22		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	34.3	mg/L	1.0	1		10/11/12 09:37	7440-44-0	M1
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	503	mg/L	20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-3-092612	Lab ID: 60129866007	Collected: 09/26/12 12:15	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 20:00	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 20:00	74-85-1	
Methane	21.4 ug/L		6.6	1		10/02/12 20:00	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	4710 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:52	7439-89-6	
Manganese	2000 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:52	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 18:20	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 18:20	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 18:20	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 18:20	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 18:20	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 18:20	107-06-2	
cis-1,2-Dichloroethene	25.6 ug/L		1.0	1		10/01/12 18:20	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 18:20	156-60-5	
methylbenzene	ND ug/L		1.0	1		10/01/12 18:20	100-41-4	
Dimethane	ND ug/L		10.0	1		10/01/12 18:20	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 18:20	75-09-2	
Tetrachloroethene	7.7 ug/L		1.0	1		10/01/12 18:20	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 18:20	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 18:20	71-55-6	
Trichloroethene	4.1 ug/L		1.0	1		10/01/12 18:20	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 18:20	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 18:20	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/01/12 18:20	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	1		10/01/12 18:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/01/12 18:20	17060-07-0	
Toluene-d8 (S)	94 %		80-120	1		10/01/12 18:20	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 18:20		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	248 mg/L		20.0	1		09/29/12 09:31		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	815 mg/L		5.0	1		09/28/12 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.9 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:53	18496-25-8	

Date: 10/12/2012 04:26 PM

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Page 20 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-3-092612	Lab ID: 60129866007	Collected: 09/26/12 12:15	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	255 mg/L		20.0	20		10/03/12 01:47	16887-00-6	
Sulfate	51.2 mg/L		5.0	5		10/03/12 18:23	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/27/12 18:01		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/27/12 18:01		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/27/12 18:01		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.7 mg/L		1.0	1		10/11/12 10:06	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	224 mg/L		20.0	1		09/29/12 10:00	124-38-9	



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39B-092612	Lab ID: 60129866008	Collected: 09/26/12 11:00	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 20:43	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 20:43	74-85-1	
Methane	ND ug/L		6.6	1		10/02/12 20:43	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	1680 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:54	7439-89-6	
Manganese	25.6 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:54	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 18:35	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 18:35	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 18:35	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 18:35	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 18:35	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 18:35	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 18:35	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 18:35	156-60-5	
methylbenzene	ND ug/L		1.0	1		10/01/12 18:35	100-41-4	
Dimethane	ND ug/L		10.0	1		10/01/12 18:35	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 18:35	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 18:35	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 18:35	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 18:35	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 18:35	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 18:35	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 18:35	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	1		10/01/12 18:35	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	1		10/01/12 18:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/01/12 18:35	17060-07-0	
Toluene-d8 (S)	103 %		80-120	1		10/01/12 18:35	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 18:35		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	620 mg/L		20.0	1		09/29/12 09:37		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1690 mg/L		5.0	1		09/28/12 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:53	18496-25-8	

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Page 22 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39B-092612	Lab ID: 60129866008	Collected: 09/26/12 11:00	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	437 mg/L		25.0	25		10/03/12 18:41	16887-00-6	
Sulfate	143 mg/L		20.0	20		10/03/12 02:04	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	1.3 mg/L		0.10	1		09/27/12 17:44		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/27/12 17:44		
Nitrogen, NO2 plus NO3	1.3 mg/L		0.10	1		09/27/12 17:44		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	8.3 mg/L		1.0	1		10/11/12 10:20	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	624 mg/L		20.0	1		09/29/12 10:00	124-38-9	



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39B-092612-AD Lab ID: 60129866009 Collected: 09/26/12 11:10 Received: 09/27/12 07:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 21:04	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 21:04	74-85-1	
Methane	ND ug/L		6.6	1		10/02/12 21:04	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	137 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:57	7439-89-6	
Manganese	ND ug/L		5.0	1	09/28/12 12:00	10/01/12 15:57	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 18:50	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 18:50	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 18:50	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 18:50	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 18:50	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 18:50	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 18:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 18:50	156-60-5	
ethylbenzene	ND ug/L		1.0	1		10/01/12 18:50	100-41-4	
dimethane	ND ug/L		10.0	1		10/01/12 18:50	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 18:50	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 18:50	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 18:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 18:50	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 18:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 18:50	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 18:50	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	1		10/01/12 18:50	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		10/01/12 18:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	1		10/01/12 18:50	17060-07-0	
Toluene-d8 (S)	106 %		80-120	1		10/01/12 18:50	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 18:50		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	609 mg/L		20.0	1		09/29/12 09:43		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1650 mg/L		5.0	1		09/28/12 15:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:53	18496-25-8	

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Page 24 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39B-092612-AD	Lab ID: 60129866009	Collected: 09/26/12 11:10	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	441 mg/L		25.0	25		10/03/12 18:58	16887-00-6	
Sulfate	142 mg/L		20.0	20		10/03/12 02:22	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	1.3 mg/L		0.10	1		09/27/12 17:48		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/27/12 17:48		
Nitrogen, NO2 plus NO3	1.3 mg/L		0.10	1		09/27/12 17:48		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.6 mg/L		1.0	1		10/11/12 10:34	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	633 mg/L		20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39A-092612-AD	Lab ID: 60129866010	Collected: 09/26/12 10:00	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 21:25	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 21:25	74-85-1	
Methane	7.0 ug/L		6.6	1		10/02/12 21:25	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	135 ug/L		50.0	1	09/28/12 12:00	10/01/12 15:59	7439-89-6	
Manganese	312 ug/L		5.0	1	09/28/12 12:00	10/01/12 15:59	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 13:28	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 13:28	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 13:28	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 13:28	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 13:28	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 13:28	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 13:28	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 13:28	156-60-5	
Phenylbenzene	ND ug/L		1.0	1		10/01/12 13:28	100-41-4	
Dimethylbenzene	ND ug/L		10.0	1		10/01/12 13:28	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 13:28	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 13:28	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 13:28	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 13:28	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 13:28	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 13:28	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 13:28	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	1		10/01/12 13:28	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	1		10/01/12 13:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	1		10/01/12 13:28	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		10/01/12 13:28	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 13:28		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	514 mg/L		20.0	1		09/29/12 09:49		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1890 mg/L		5.0	1		09/28/12 15:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:53	18496-25-8	

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Page 26 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39A-092612-AD	Lab ID: 60129866010	Collected: 09/26/12 10:00	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	<b>685</b> mg/L		50.0	50		10/03/12 19:50	16887-00-6	
Sulfate	<b>130</b> mg/L		20.0	20		10/03/12 03:14	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	<b>0.20</b> mg/L		0.10	1		09/27/12 17:31		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/27/12 17:31		
Nitrogen, NO2 plus NO3	<b>0.23</b> mg/L		0.10	1		09/27/12 17:31		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	<b>4.3</b> mg/L		1.0	1		10/11/12 10:48	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	<b>514</b> mg/L		20.0	1		09/29/12 10:00	124-38-9	

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Page 27 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39A-092612	Lab ID: 60129866011	Collected: 09/26/12 09:50	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 21:36	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 21:36	74-85-1	
Methane	10.1 ug/L		6.6	1		10/02/12 21:36	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	123 ug/L		50.0	1	09/28/12 12:00	10/01/12 16:01	7439-89-6	
Manganese	308 ug/L		5.0	1	09/28/12 12:00	10/01/12 16:01	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 13:43	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 13:43	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 13:43	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 13:43	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 13:43	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 13:43	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 13:43	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 13:43	156-60-5	
methylbenzene	ND ug/L		1.0	1		10/01/12 13:43	100-41-4	
Dimethane	ND ug/L		10.0	1		10/01/12 13:43	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 13:43	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 13:43	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 13:43	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 13:43	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 13:43	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 13:43	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 13:43	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	1		10/01/12 13:43	460-00-4	
Dibromofluoromethane (S)	104 %		80-120	1		10/01/12 13:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		80-120	1		10/01/12 13:43	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		10/01/12 13:43	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 13:43		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	528 mg/L		20.0	1		09/29/12 09:54		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	3880 mg/L		5.0	1		09/28/12 15:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:54	18496-25-8	

Date: 10/12/2012 04:26 PM

## REPORT OF LABORATORY ANALYSIS

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Page 28 of 55

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: MW-39A-092612	Lab ID: 60129866011	Collected: 09/26/12 09:50	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	<b>678</b> mg/L		50.0	50			10/03/12 20:08	16887-00-6
Sulfate	<b>127</b> mg/L		20.0	20			10/03/12 03:31	14808-79-8
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	<b>0.19</b> mg/L		0.10	1			09/27/12 17:30	
Nitrogen, Nitrite	ND mg/L		0.10	1			09/27/12 17:30	
Nitrogen, NO2 plus NO3	<b>0.23</b> mg/L		0.10	1			09/27/12 17:30	
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	<b>4.7</b> mg/L		1.0	1			10/11/12 11:02	7440-44-0
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	<b>507</b> mg/L		20.0	1			09/29/12 10:00	124-38-9

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Page 29 of 55



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: OBW-3-092612	Lab ID: 60129866012	Collected: 09/26/12 08:45	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/02/12 21:46	74-84-0	
Ethene	ND ug/L		6.2	1		10/02/12 21:46	74-85-1	
Methane	ND ug/L		6.6	1		10/02/12 21:46	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	ND ug/L		50.0	1	09/28/12 12:00	10/01/12 16:07	7439-89-6	
Manganese	9.6 ug/L		5.0	1	09/28/12 12:00	10/01/12 16:07	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 13:58	67-64-1	
Benzene	2.0 ug/L		1.0	1		10/01/12 13:58	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 13:58	75-15-0	
Chlorobenzene	106 ug/L		1.0	1		10/01/12 13:58	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 13:58	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 13:58	107-06-2	
cis-1,2-Dichloroethene	2.1 ug/L		1.0	1		10/01/12 13:58	156-59-2	
trans-1,2-Dichloroethene	1.4 ug/L		1.0	1		10/01/12 13:58	156-60-5	
methylbenzene	ND ug/L		1.0	1		10/01/12 13:58	100-41-4	
Dimethane	ND ug/L		10.0	1		10/01/12 13:58	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 13:58	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 13:58	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 13:58	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 13:58	71-55-6	
Trichloroethene	1.1 ug/L		1.0	1		10/01/12 13:58	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 13:58	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 13:58	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	1		10/01/12 13:58	460-00-4	
Dibromofluoromethane (S)	103 %		80-120	1		10/01/12 13:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		80-120	1		10/01/12 13:58	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/01/12 13:58	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 13:58		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	288 mg/L		20.0	1		09/29/12 10:07		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	695 mg/L		5.0	1		09/28/12 15:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/02/12 16:54	18496-25-8	

Date: 10/12/2012 04:26 PM

## REPORT OF LABORATORY ANALYSIS

Page 30 of 55

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Sample: OBW-3-092612	Lab ID: 60129866012	Collected: 09/26/12 08:45	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	150	mg/L	20.0	20		10/03/12 03:49	16887-00-6	
Sulfate	99.5	mg/L	20.0	20		10/03/12 03:49	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/27/12 17:17		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/27/12 17:17		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/27/12 17:17		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	2.2	mg/L	1.0	1		10/11/12 11:16	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	268	mg/L	20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Sample: TB-3	Lab ID: 60129866013	Collected: 09/26/12 00:00	Received: 09/27/12 07:45	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 14:13	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 14:13	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 14:13	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 14:13	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 14:13	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 14:13	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 14:13	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 14:13	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/01/12 14:13	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/01/12 14:13	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 14:13	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 14:13	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 14:13	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 14:13	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 14:13	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 14:13	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 14:13	1330-20-7	
<b>Surrogates</b>								
Bromofluorobenzene (S)	100 %		80-120	1		10/01/12 14:13	460-00-4	
Dibromofluoromethane (S)	105 %		80-120	1		10/01/12 14:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		80-120	1		10/01/12 14:13	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		10/01/12 14:13	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 14:13		

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## REPORT OF LABORATORY ANALYSIS

Page 32 of 55

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch:	AIR/15861	Analysis Method:	RSK 175
QC Batch Method:	RSK 175	Analysis Description:	RSK 175 AIR HEADSPACE
Associated Lab Samples:	60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007, 60129866008, 60129866009, 60129866010, 60129866011, 60129866012		

METHOD BLANK: 1300575 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Ethane	ug/L	ND	6.2	10/02/12 18:17	
Ethene	ug/L	ND	6.2	10/02/12 18:17	
Methane	ug/L	ND	6.6	10/02/12 18:17	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1300576 1300577

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
Ethane	ug/L	114	102	104	90	91	70-130	1	30	
Ethene	ug/L	106	95.8	97.1	90	92	70-130	1	30	
Methane	ug/L	60.7	55.6	55.9	92	92	70-130	.6	30	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1302127 1302128

Parameter	Units	60129866006	MS Spike	MSD	MS Result	% Rec	MSD % Rec	% Rec	RPD	Max RPD	Qual
		Result	Conc.	Spke Conc.							
Ethane	ug/L	ND	114	108	87.9	90.0	77	82	30-150	2	30
Ethene	ug/L	629	106	101	677	648	45	18	30-150	4	30 2e,M0
Methane	ug/L	3350	60.7	57.8	4000	3060	1070	-496	30-150	26	30 1e,3e, M0

SAMPLE DUPLICATE: 1302129

Parameter	Units	60129866008		Dup	Max RPD	RPD	Qualifiers
		Result	Result	Result			
Ethane	ug/L	ND	ND	ND		30	
Ethene	ug/L	ND	ND	ND		30	
Methane	ug/L	ND	ND	ND		30	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: MPRP/19683 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1068906 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/01/12 15:17	
Manganese	ug/L	ND	5.0	10/02/12 10:39	

LABORATORY CONTROL SAMPLE: 1068907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9310	93	80-120	
Manganese	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1068908 1068909

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	17900	10000	10000	26100	22000	81	41	75-125	17	20	M1
Manganese	ug/L	3080	1000	1000	3910	3330	84	25	75-125	16	20	M1

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: MSV/48869 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129866001, 60129866004, 60129866005, 60129866006

METHOD BLANK: 1070526

Matrix: Water

Associated Lab Samples: 60129866001, 60129866004, 60129866005, 60129866006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/30/12 18:14	
1,2-Dichloroethane	ug/L	ND	1.0	09/30/12 18:14	
Acetone	ug/L	ND	10.0	09/30/12 18:14	
Benzene	ug/L	ND	1.0	09/30/12 18:14	
Carbon disulfide	ug/L	ND	5.0	09/30/12 18:14	
Chlorobenzene	ug/L	ND	1.0	09/30/12 18:14	
Chloroform	ug/L	ND	1.0	09/30/12 18:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Ethylbenzene	ug/L	ND	1.0	09/30/12 18:14	
Iodomethane	ug/L	ND	10.0	09/30/12 18:14	
Methylene chloride	ug/L	ND	1.0	09/30/12 18:14	
Tetrachloroethene	ug/L	ND	1.0	09/30/12 18:14	
Toluene	ug/L	ND	1.0	09/30/12 18:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Trichloroethene	ug/L	ND	1.0	09/30/12 18:14	
Vinyl chloride	ug/L	ND	1.0	09/30/12 18:14	
Xylene (Total)	ug/L	ND	3.0	09/30/12 18:14	
1,2-Dichloroethane-d4 (S)	%	96	80-120	09/30/12 18:14	
4-Bromofluorobenzene (S)	%	109	80-120	09/30/12 18:14	
Dibromofluoromethane (S)	%	98	80-120	09/30/12 18:14	
Toluene-d8 (S)	%	92	80-120	09/30/12 18:14	

LABORATORY CONTROL SAMPLE: 1070527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	84	76-120	
1,2-Dichloroethane	ug/L	20	17.1	85	72-123	
Acetone	ug/L	100	89.1	89	40-160	
Benzene	ug/L	20	17.9	90	74-123	
Carbon disulfide	ug/L	20	16.0	80	67-135	
Chlorobenzene	ug/L	20	18.5	93	80-120	
Chloroform	ug/L	20	17.4	87	77-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	70-120	
Ethylbenzene	ug/L	20	18.8	94	76-123	
Iodomethane	ug/L	20	16.0	80	40-160	
Methylene chloride	ug/L	20	17.5	88	72-127	
Tetrachloroethene	ug/L	20	17.7	88	78-121	
Toluene	ug/L	20	19.3	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	18.4	92	80-129	
Trichloroethene	ug/L	20	16.4	82	74-120	
Vinyl chloride	ug/L	20	16.9	84	50-140	

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Page 35 of 55

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129866

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LABORATORY CONTROL SAMPLE: 1070527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	55.6	93	76-123	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			93	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: MSV/48882 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129866010, 60129866011, 60129866012, 60129866013

METHOD BLANK: 1070757 Matrix: Water

Associated Lab Samples: 60129866010, 60129866011, 60129866012, 60129866013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/01/12 12:00	
1,2-Dichloroethane	ug/L	ND	1.0	10/01/12 12:00	
Acetone	ug/L	ND	10.0	10/01/12 12:00	
Benzene	ug/L	ND	1.0	10/01/12 12:00	
Carbon disulfide	ug/L	ND	5.0	10/01/12 12:00	
Chlorobenzene	ug/L	ND	1.0	10/01/12 12:00	
Chloroform	ug/L	ND	1.0	10/01/12 12:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Ethylbenzene	ug/L	ND	1.0	10/01/12 12:00	
Iodomethane	ug/L	ND	10.0	10/01/12 12:00	
Methylene chloride	ug/L	ND	1.0	10/01/12 12:00	
Tetrachloroethene	ug/L	ND	1.0	10/01/12 12:00	
Toluene	ug/L	ND	1.0	10/01/12 12:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Trichloroethene	ug/L	ND	1.0	10/01/12 12:00	
Vinyl chloride	ug/L	ND	1.0	10/01/12 12:00	
Xylene (Total)	ug/L	ND	3.0	10/01/12 12:00	
1,2-Dichloroethane-d4 (S)	%	101	80-120	10/01/12 12:00	
4-Bromofluorobenzene (S)	%	100	80-120	10/01/12 12:00	
Dibromofluoromethane (S)	%	101	80-120	10/01/12 12:00	
Toluene-d8 (S)	%	101	80-120	10/01/12 12:00	

LABORATORY CONTROL SAMPLE: 1070758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	76-120	
1,2-Dichloroethane	ug/L	20	21.1	106	72-123	
Acetone	ug/L	100	106	106	40-160	
Benzene	ug/L	20	19.8	99	74-123	
Carbon disulfide	ug/L	20	19.4	97	67-135	
Chlorobenzene	ug/L	20	20.1	100	80-120	
Chloroform	ug/L	20	19.5	98	77-120	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	70-120	
Ethylbenzene	ug/L	20	20.5	103	76-123	
Iodomethane	ug/L	20	17.7	88	40-160	
Methylene chloride	ug/L	20	19.4	97	72-127	
Tetrachloroethene	ug/L	20	19.7	99	78-121	
Toluene	ug/L	20	18.9	95	75-123	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	80-129	
Trichloroethene	ug/L	20	20.4	102	74-120	
Vinyl chloride	ug/L	20	21.0	105	50-140	

Date: 10/12/2012 04:26 PM

**REPORT OF LABORATORY ANALYSIS**

Page 37 of 55

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129866

LABORATORY CONTROL SAMPLE: 1070758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	59.4	99	76-123	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch:	MSV/48896	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60129866001, 60129866002, 60129866003, 60129866005, 60129866006, 60129866007, 60129866008, 60129866009		

METHOD BLANK: 1070870 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866005, 60129866006, 60129866007, 60129866008, 60129866009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/01/12 18:04	
1,2-Dichloroethane	ug/L	ND	1.0	10/01/12 18:04	
Acetone	ug/L	ND	10.0	10/01/12 18:04	
Benzene	ug/L	ND	1.0	10/01/12 18:04	
Carbon disulfide	ug/L	ND	5.0	10/01/12 18:04	
Chlorobenzene	ug/L	ND	1.0	10/01/12 18:04	
Chloroform	ug/L	ND	1.0	10/01/12 18:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Ethylbenzene	ug/L	ND	1.0	10/01/12 18:04	
Iodomethane	ug/L	ND	10.0	10/01/12 18:04	
Methylene chloride	ug/L	ND	1.0	10/01/12 18:04	
Tetrachloroethene	ug/L	ND	1.0	10/01/12 18:04	
Toluene	ug/L	ND	1.0	10/01/12 18:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Trichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Vinyl chloride	ug/L	ND	1.0	10/01/12 18:04	
Xylene (Total)	ug/L	ND	3.0	10/01/12 18:04	
1,2-Dichloroethane-d4 (S)	%	96	80-120	10/01/12 18:04	
4-Bromofluorobenzene (S)	%	108	80-120	10/01/12 18:04	
Dibromofluoromethane (S)	%	99	80-120	10/01/12 18:04	
Toluene-d8 (S)	%	101	80-120	10/01/12 18:04	

LABORATORY CONTROL SAMPLE: 1070871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	89	76-120	
1,2-Dichloroethane	ug/L	20	17.7	89	72-123	
Acetone	ug/L	100	79.0	79	40-160	
Benzene	ug/L	20	18.3	92	74-123	
Carbon disulfide	ug/L	20	17.2	86	67-135	
Chlorobenzene	ug/L	20	19.3	96	80-120	
Chloroform	ug/L	20	17.6	88	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.7	84	70-120	
Ethylbenzene	ug/L	20	19.9	99	76-123	
Iodomethane	ug/L	20	14.5	73	40-160	
Methylene chloride	ug/L	20	17.4	87	72-127	
Tetrachloroethene	ug/L	20	17.9	89	78-121	
Toluene	ug/L	20	19.3	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	17.1	86	80-129	
Trichloroethene	ug/L	20	18.5	92	74-120	

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Page 39 of 55



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

LABORATORY CONTROL SAMPLE: 1070871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/L	20	19.6	98	50-140	
Xylene (Total)	ug/L	60	59.6	99	76-123	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Dibromofluoromethane (S)	%			93	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1070872 1070873

Parameter	Units	60129866006 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD	RPD	RPD
1,1,1-Trichloroethane	ug/L	ND	2000	2000	1830	1730	91	86	62-146	6	32	
1,2-Dichloroethane	ug/L	ND	2000	2000	1950	1740	98	87	52-146	12	35	
Acetone	ug/L	ND	10000	10000	8140	8710	81	87	40-151	7	35	
Benzene	ug/L	ND	2000	2000	1840	1780	92	89	40-155	4	45	
Carbon disulfide	ug/L	ND	2000	2000	1420	1430	71	72	55-153	1	32	
Chlorobenzene	ug/L	4170	2000	2000	6010	5890	92	86	54-141	2	31	
Chloroform	ug/L	ND	2000	2000	1830	1830	92	92	59-138	0	29	
trans-1,2-Dichloroethene	ug/L	181000			146000	138000				5	34	
Ethylbenzene	ug/L	ND	2000	2000	1910	1890	95	95	40-158	1	48	
Iodomethane	ug/L	ND	2000	2000	1380	1430	69	71	40-132	3	44	
Methylene chloride	ug/L	ND	2000	2000	1890	1750	95	88	60-137	8	28	
Tetrachloroethene	ug/L	984	2000	2000	2720	2840	87	93	54-152	4	35	
Toluene	ug/L	ND			1940	1980				2	46	
trans-1,2-Dichloroethene	ug/L	ND	2000	2000	1770	1700	85	81	66-152	4	30	
Trichloroethene	ug/L	370	2000	2000	2190	2050	91	84	51-146	7	34	
Vinyl chloride	ug/L	15100	2000	2000	16400	16400	64	64	40-160	0	30	
Xylene (Total)	ug/L	ND	6000	6000	5300	5580	88	93	40-151	5	45	
1,2-Dichloroethane-d4 (S)	%						91	99	80-120			
4-Bromofluorobenzene (S)	%						100	106	80-120			
Dibromofluoromethane (S)	%						101	99	80-120			
Toluene-d8 (S)	%						90	103	80-120			
Preservation pH		1.0			1.0	1.0				0		

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## REPORT OF LABORATORY ANALYSIS

Page 40 of 55

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: MSV/48929 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129866002, 60129866003, 60129866006

METHOD BLANK: 1071779 Matrix: Water

Associated Lab Samples: 60129866002, 60129866003, 60129866006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	10/02/12 19:35	
1,2-Dichloroethane-d4 (S)	%	100	80-120	10/02/12 19:35	
4-Bromofluorobenzene (S)	%	98	80-120	10/02/12 19:35	
Dibromofluoromethane (S)	%	100	80-120	10/02/12 19:35	
Toluene-d8 (S)	%	103	80-120	10/02/12 19:35	

LABORATORY CONTROL SAMPLE: 1071780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	20.1	100	75-123	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1071781 1071782

Parameter	Units	MS		MSD		MS	MS	MSD	% Rec	Limits	Max	
		60129973008	Spike Conc.	Spike Conc.	Result						RPD	RPD
Toluene	ug/L	ND	20	20	26.2	23.3	131	117	42-151	11	46	
1,2-Dichloroethane-d4 (S)	%						95	93	80-120			
4-Bromofluorobenzene (S)	%						104	99	80-120			
Dibromofluoromethane (S)	%						100	96	80-120			
Toluene-d8 (S)	%						99	97	80-120			



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WET/37403

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1069579

Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	09/29/12 08:19	

LABORATORY CONTROL SAMPLE: 1069580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	490	98	90-110	

SAMPLE DUPLICATE: 1069581

Parameter	Units	60129992001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	90.2	88.9	1	9	

SAMPLE DUPLICATE: 1069582

Parameter	Units	60129866006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	420	414	1	9	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WET/37387 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1069122 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	09/28/12 15:04	

SAMPLE DUPLICATE: 1069123

Parameter	Units	60129864001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	740	750	1	17	

SAMPLE DUPLICATE: 1069124

Parameter	Units	60129866010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1890	1880	1	17	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WET/37422 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

SAMPLE DUPLICATE: 1070602

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5 H6	

SAMPLE DUPLICATE: 1070603

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.0	0	5 H6	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WET/37454 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1071295 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/02/12 16:35	

LABORATORY CONTROL SAMPLE: 1071296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.48	96	80-120	

MATRIX SPIKE SAMPLE: 1071299

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	1.0	.5	1.4	76	75-125	

SAMPLE DUPLICATE: 1071297

Parameter	Units	60129750002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	.038J		20	

SAMPLE DUPLICATE: 1071298

Parameter	Units	60129866004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.20	0.20	1	20	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WETA/21858 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1071236 Matrix: Water

Associated Lab Samples: 60129866001, 60129866003, 60129866005, 60129866006, 60129866007, 60129866008, 60129866009,  
60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/02/12 19:07	
Sulfate	mg/L	ND	1.0	10/02/12 19:07	

METHOD BLANK: 1071943 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866004, 60129866006, 60129866007, 60129866008, 60129866009,  
60129866010, 60129866011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/03/12 12:00	
Sulfate	mg/L	ND	1.0	10/03/12 12:00	

LABORATORY CONTROL SAMPLE: 1071237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 1071944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE SAMPLE: 1071238

Parameter	Units	60129584001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	ND	500	500	84	64-118	
Sulfate	mg/L	1130	500	1560	87	61-119	

MATRIX SPIKE SAMPLE: 1071239

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	142	100	227	85	64-118	

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Page 46 of 55

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WETA/21800 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 60129866003, 60129866004, 60129866010, 60129866011, 60129866012

METHOD BLANK: 1068413 Matrix: Water

Associated Lab Samples: 60129866003, 60129866004, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/27/12 17:10	
Nitrogen, Nitrite	mg/L	ND	0.10	09/27/12 17:10	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/27/12 17:10	

LABORATORY CONTROL SAMPLE: 1068414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1068415

Parameter	Units	60129864001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.36	1.6	2.2	112	90-110	M0
Nitrogen, Nitrite	mg/L	0.024J	.4	0.43	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.38	2	2.6	110	90-110	

MATRIX SPIKE SAMPLE: 1068417

Parameter	Units	60129845001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	108	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.42	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.2	108	90-110	

SAMPLE DUPLICATE: 1068416

Parameter	Units	60129836002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	5.0	5.2	3	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	5.1	5.2	3	13	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WETA/21801 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60129866007, 60129866008, 60129866009

METHOD BLANK: 1068418 Matrix: Water

Associated Lab Samples: 60129866007, 60129866008, 60129866009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/27/12 17:36	
Nitrogen, Nitrite	mg/L	ND	0.10	09/27/12 17:36	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/27/12 17:36	

LABORATORY CONTROL SAMPLE: 1068419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	103	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1068420

Parameter	Units	60129860002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	102	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.38	92	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1068422

Parameter	Units	60129832002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.5	96	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.59	140	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	106	90-110	

SAMPLE DUPLICATE: 1068421

Parameter	Units	60129856004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	8.8	8.8	0	15	
Nitrogen, Nitrite	mg/L	0.80	0.80	0	31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	9.6	9.6	0	13	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch: WETA/21806 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60129866001, 60129866002, 60129866005, 60129866006

METHOD BLANK: 1068815 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866005, 60129866006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/28/12 11:12	
Nitrogen, Nitrite	mg/L	ND	0.10	09/28/12 11:12	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/28/12 11:12	

LABORATORY CONTROL SAMPLE: 1068816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	108	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1068818

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.39	83	90-110	M1
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1068819

Parameter	Units	60129871006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.8	112	90-110	
Nitrogen, Nitrite	mg/L			0.37			
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L			2.2			

SAMPLE DUPLICATE: 1068817

Parameter	Units	60129866002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	
Nitrogen, Nitrite	mg/L	ND	.026J		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

QC Batch:	WETA/21992	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
Associated Lab Samples:	60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007, 60129866008, 60129866009, 60129866010, 60129866011, 60129866012		

METHOD BLANK: 1077160 Matrix: Water

Associated Lab Samples: 60129866001, 60129866002, 60129866003, 60129866004, 60129866005, 60129866006, 60129866007,  
60129866008, 60129866009, 60129866010, 60129866011, 60129866012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/11/12 07:30	

LABORATORY CONTROL SAMPLE: 1077161

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.8	97	80-120	

MATRIX SPIKE SAMPLE: 1077162

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	34.3	2.5	37.6	132	80-120	M1

SAMPLE DUPLICATE: 1077163

Parameter	Units	60130206005 Result	Dup Result	Max RPD	Qualifiers
Total Organic Carbon	mg/L	28.6	31.9	11	25

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/48869

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/48882

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1e Sample is 53.06 times spike amount.

2e Sample is 6.4 times spike amount.

3e Sample is 65.91 times spike amount.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129866001	OBW-2-092612	RSK 175	AIR/15861		
60129866002	LPZ-5-092612	RSK 175	AIR/15861		
60129866003	LPZ-4-092612	RSK 175	AIR/15861		
60129866004	LPZ-2-092612	RSK 175	AIR/15861		
60129866005	REC-4-092612	RSK 175	AIR/15861		
60129866006	REC-1-092612	RSK 175	AIR/15861		
60129866007	MW-3-092612	RSK 175	AIR/15861		
60129866008	MW-39B-092612	RSK 175	AIR/15861		
60129866009	MW-39B-092612-AD	RSK 175	AIR/15861		
60129866010	MW-39A-092612-AD	RSK 175	AIR/15861		
60129866011	MW-39A-092612	RSK 175	AIR/15861		
60129866012	OBW-3-092612	RSK 175	AIR/15861		
60129866001	OBW-2-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866002	LPZ-5-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866003	LPZ-4-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866004	LPZ-2-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866005	REC-4-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866006	REC-1-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866007	MW-3-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866008	MW-39B-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866009	MW-39B-092612-AD	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866010	MW-39A-092612-AD	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866011	MW-39A-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866012	OBW-3-092612	EPA 3010	MPRP/19683	EPA 6010	ICP/16224
60129866001	OBW-2-092612	EPA 5030B/8260	MSV/48869		
60129866001	OBW-2-092612	EPA 5030B/8260	MSV/48896		
60129866002	LPZ-5-092612	EPA 5030B/8260	MSV/48896		
60129866002	LPZ-5-092612	EPA 5030B/8260	MSV/48929		
60129866003	LPZ-4-092612	EPA 5030B/8260	MSV/48896		
60129866003	LPZ-4-092612	EPA 5030B/8260	MSV/48929		
60129866004	LPZ-2-092612	EPA 5030B/8260	MSV/48869		
60129866005	REC-4-092612	EPA 5030B/8260	MSV/48869		
60129866005	REC-4-092612	EPA 5030B/8260	MSV/48896		
60129866006	REC-1-092612	EPA 5030B/8260	MSV/48869		
60129866006	REC-1-092612	EPA 5030B/8260	MSV/48896		
60129866006	REC-1-092612	EPA 5030B/8260	MSV/48929		
60129866007	MW-3-092612	EPA 5030B/8260	MSV/48896		
60129866008	MW-39B-092612	EPA 5030B/8260	MSV/48896		
60129866009	MW-39B-092612-AD	EPA 5030B/8260	MSV/48896		
60129866010	MW-39A-092612-AD	EPA 5030B/8260	MSV/48882		
60129866011	MW-39A-092612	EPA 5030B/8260	MSV/48882		
60129866012	OBW-3-092612	EPA 5030B/8260	MSV/48882		

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**REPORT OF LABORATORY ANALYSIS**

Page 52 of 55

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129866013	TB-3	EPA 5030B/8260	MSV/48882		
60129866001	OBW-2-092612	SM 2320B	WET/37403		
60129866002	LPZ-5-092612	SM 2320B	WET/37403		
60129866003	LPZ-4-092612	SM 2320B	WET/37403		
60129866004	LPZ-2-092612	SM 2320B	WET/37403		
60129866005	REC-4-092612	SM 2320B	WET/37403		
60129866006	REC-1-092612	SM 2320B	WET/37403		
60129866007	MW-3-092612	SM 2320B	WET/37403		
60129866008	MW-39B-092612	SM 2320B	WET/37403		
60129866009	MW-39B-092612-AD	SM 2320B	WET/37403		
60129866010	MW-39A-092612-AD	SM 2320B	WET/37403		
60129866011	MW-39A-092612	SM 2320B	WET/37403		
60129866012	OBW-3-092612	SM 2320B	WET/37403		
60129866001	OBW-2-092612	SM 2540C	WET/37387		
60129866002	LPZ-5-092612	SM 2540C	WET/37387		
60129866003	LPZ-4-092612	SM 2540C	WET/37387		
60129866004	LPZ-2-092612	SM 2540C	WET/37387		
60129866005	REC-4-092612	SM 2540C	WET/37387		
60129866006	REC-1-092612	SM 2540C	WET/37387		
60129866007	MW-3-092612	SM 2540C	WET/37387		
60129866008	MW-39B-092612	SM 2540C	WET/37387		
60129866009	MW-39B-092612-AD	SM 2540C	WET/37387		
60129866010	MW-39A-092612-AD	SM 2540C	WET/37387		
60129866011	MW-39A-092612	SM 2540C	WET/37387		
60129866012	OBW-3-092612	SM 2540C	WET/37387		
60129866001	OBW-2-092612	SM 4500-H+B	WET/37422		
60129866002	LPZ-5-092612	SM 4500-H+B	WET/37422		
60129866003	LPZ-4-092612	SM 4500-H+B	WET/37422		
60129866004	LPZ-2-092612	SM 4500-H+B	WET/37422		
60129866005	REC-4-092612	SM 4500-H+B	WET/37422		
60129866006	REC-1-092612	SM 4500-H+B	WET/37422		
60129866007	MW-3-092612	SM 4500-H+B	WET/37422		
60129866008	MW-39B-092612	SM 4500-H+B	WET/37422		
60129866009	MW-39B-092612-AD	SM 4500-H+B	WET/37422		
60129866010	MW-39A-092612-AD	SM 4500-H+B	WET/37422		
60129866011	MW-39A-092612	SM 4500-H+B	WET/37422		
60129866012	OBW-3-092612	SM 4500-H+B	WET/37422		
60129866001	OBW-2-092612	SM 4500-S-2 D	WET/37454		
60129866002	LPZ-5-092612	SM 4500-S-2 D	WET/37454		
60129866003	LPZ-4-092612	SM 4500-S-2 D	WET/37454		
60129866004	LPZ-2-092612	SM 4500-S-2 D	WET/37454		
60129866005	REC-4-092612	SM 4500-S-2 D	WET/37454		
60129866006	REC-1-092612	SM 4500-S-2 D	WET/37454		
60129866007	MW-3-092612	SM 4500-S-2 D	WET/37454		
60129866008	MW-39B-092612	SM 4500-S-2 D	WET/37454		
60129866009	MW-39B-092612-AD	SM 4500-S-2 D	WET/37454		
60129866010	MW-39A-092612-AD	SM 4500-S-2 D	WET/37454		

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**REPORT OF LABORATORY ANALYSIS**

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Page 53 of 55

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129866011	MW-39A-092612	SM 4500-S-2 D	WET/37454		
60129866012	OBW-3-092612	SM 4500-S-2 D	WET/37454		
60129866001	OBW-2-092612	EPA 300.0	WETA/21858		
60129866002	LPZ-5-092612	EPA 300.0	WETA/21858		
60129866003	LPZ-4-092612	EPA 300.0	WETA/21858		
60129866004	LPZ-2-092612	EPA 300.0	WETA/21858		
60129866005	REC-4-092612	EPA 300.0	WETA/21858		
60129866006	REC-1-092612	EPA 300.0	WETA/21858		
60129866007	MW-3-092612	EPA 300.0	WETA/21858		
60129866008	MW-39B-092612	EPA 300.0	WETA/21858		
60129866009	MW-39B-092612-AD	EPA 300.0	WETA/21858		
60129866010	MW-39A-092612-AD	EPA 300.0	WETA/21858		
60129866011	MW-39A-092612	EPA 300.0	WETA/21858		
60129866012	OBW-3-092612	EPA 300.0	WETA/21858		
60129866001	OBW-2-092612	EPA 353.2	WETA/21806		
60129866002	LPZ-5-092612	EPA 353.2	WETA/21806		
60129866003	LPZ-4-092612	EPA 353.2	WETA/21800		
60129866004	LPZ-2-092612	EPA 353.2	WETA/21800		
60129866005	REC-4-092612	EPA 353.2	WETA/21806		
60129866006	REC-1-092612	EPA 353.2	WETA/21806		
60129866007	MW-3-092612	EPA 353.2	WETA/21801		
60129866008	MW-39B-092612	EPA 353.2	WETA/21801		
60129866009	MW-39B-092612-AD	EPA 353.2	WETA/21801		
60129866010	MW-39A-092612-AD	EPA 353.2	WETA/21800		
60129866011	MW-39A-092612	EPA 353.2	WETA/21800		
60129866012	OBW-3-092612	EPA 353.2	WETA/21800		
60129866001	OBW-2-092612	SM 5310C	WETA/21992		
60129866002	LPZ-5-092612	SM 5310C	WETA/21992		
60129866003	LPZ-4-092612	SM 5310C	WETA/21992		
60129866004	LPZ-2-092612	SM 5310C	WETA/21992		
60129866005	REC-4-092612	SM 5310C	WETA/21992		
60129866006	REC-1-092612	SM 5310C	WETA/21992		
60129866007	MW-3-092612	SM 5310C	WETA/21992		
60129866008	MW-39B-092612	SM 5310C	WETA/21992		
60129866009	MW-39B-092612-AD	SM 5310C	WETA/21992		
60129866010	MW-39A-092612-AD	SM 5310C	WETA/21992		
60129866011	MW-39A-092612	SM 5310C	WETA/21992		
60129866012	OBW-3-092612	SM 5310C	WETA/21992		
60129866001	OBW-2-092612	SM 4500-CO2 D	WETA/22019		
60129866002	LPZ-5-092612	SM 4500-CO2 D	WETA/22019		
60129866003	LPZ-4-092612	SM 4500-CO2 D	WETA/22019		
60129866004	LPZ-2-092612	SM 4500-CO2 D	WETA/22019		
60129866005	REC-4-092612	SM 4500-CO2 D	WETA/22019		
60129866006	REC-1-092612	SM 4500-CO2 D	WETA/22019		
60129866007	MW-3-092612	SM 4500-CO2 D	WETA/22019		

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**REPORT OF LABORATORY ANALYSIS**

Page 54 of 55

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129866008	MW-39B-092612	SM 4500-CO2 D	WETA/22019		
60129866009	MW-39B-092612-AD	SM 4500-CO2 D	WETA/22019		
60129866010	MW-39A-092612-AD	SM 4500-CO2 D	WETA/22019		
60129866011	MW-39A-092612	SM 4500-CO2 D	WETA/22019		
60129866012	OBW-3-092612	SM 4500-CO2 D	WETA/22019		



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information

Company Environmental Operations		Report To Larry Rosen	Attention	Page: 1 of 2
Address 1530 S. Second St. Ste. 200 St Louis, MO 63104		Copy To	Company Name	<b>REGULATORY AGENCY</b>
			Add 832	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Email To larryr@environmentalops.com		Purchase Order No.	Pace Quote Reference	<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER POTW
Phone 314-241-0900	Fax 314-436-2900	Project Name Solutia Groundwater	Pace Project Jamie Slade	Site Location MO
Requested Due Date/TAT:		Project Number	Pace Profile #:	STATE: MO

ITEM #	Section D Required Client Information		Valid Matrix Codes MATRIX CODE DW WT WW S CL WP AIR OT Tissue	MATRIX CODE (see valid codes to left) SAMPLE TYPE: (G= GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis Filtered (Y/N)										Pace Project No./Lab I.D. <i>60129466</i>
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved										Y/N										
	DATE	TIME			DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>			HCl	NaOH	Na <sub>2</sub> SO <sub>3</sub>	Methanol	Other	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
1	ORW-2-092612	WT	9/26 1420	9/26 1420	9/26 1420	9/26 1420	9/26 1420	9/26 1420	9/26 1420	9/26 1420	9/26 1420	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	10/24/2007, ANALINE (01)			
2	LPZ-5-092612	WT	G	9/26 1310	9/26 1310	9/26 1310	9/26 1310	9/26 1310	9/26 1310	9/26 1310	9/26 1310	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C02		
3	LPZ-4-092612	WT	G	9/26 0955	9/26 0955	9/26 0955	9/26 0955	9/26 0955	9/26 0955	9/26 0955	9/26 0955	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C03		
4	LPZ-2-092612	WT	G	9/26 0910	9/26 0910	9/26 0910	9/26 0910	9/26 0910	9/26 0910	9/26 0910	9/26 0910	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C04	
5	Rec-4-092612	WT	G	9/26 1440	9/26 1440	9/26 1440	9/26 1440	9/26 1440	9/26 1440	9/26 1440	9/26 1440	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C05	
6	Rec-1-092612	WT	G	9/26 1330	9/26 1330	9/26 1330	9/26 1330	9/26 1330	9/26 1330	9/26 1330	9/26 1330	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C06	
7	MW-3-092612	WT	G	9/26 1215	9/26 1215	9/26 1215	9/26 1215	9/26 1215	9/26 1215	9/26 1215	9/26 1215	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C07	
8	MW-39B-092612	WT	G	9/26 1100	9/26 1100	9/26 1100	9/26 1100	9/26 1100	9/26 1100	9/26 1100	9/26 1100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C08	
9	REC-1-092612-MD	WT	G	9/26 1345	9/26 1345	9/26 1345	9/26 1345	9/26 1345	9/26 1345	9/26 1345	9/26 1345	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	M5/MD	
10	MW-39B-092612-AD	WT	G	9/26 1140	9/26 1140	9/26 1140	9/26 1140	9/26 1140	9/26 1140	9/26 1140	9/26 1140	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C09	
11	MW-39A-092612-AD	WT	G	9/26 1020	9/26 1020	9/26 1020	9/26 1020	9/26 1020	9/26 1020	9/26 1020	9/26 1020	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C10	
12	MW-39A-092612	WT	G	9/26 0950	9/26 0950	9/26 0950	9/26 0950	9/26 0950	9/26 0950	9/26 0950	9/26 0950	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C11	
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS																				
					9/26 1530	E Brackett			9/27 0745	1-1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		

**SAMPLER NAME AND SIGNATURE**

 PRINT Name of SAMPLER: *Derek Brackett*

 SIGNATURE of SAMPLER: *[Signature]*

 DATE Signed (MM/DD/YY): *9/26/12*

 Temp in °C  
 Received on CS (Y/N)  
 Closely Sealed Cooler (Y/N)  
 Samples intact (Y/N)



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

Page: 2 of 2

## Section A

### Required Client Information

Company: Environmental Operations

Address: 1530 S Second St. Ste 200

St. Louis, MO 63104

Email To: larryr@environmentalops.com

Phone: 314-241-0900 Fax: 314-436-2900

Requested Due Date/TAT:

## Section B

### Required Project Information

Report To: Larry Rosen

Copy To:

Purchase Order No:

Project Name: Solutia Groundwater

Project Number:

## Section C

### Invoice Information

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager:

Pace Profile #:

## REGULATORY AGENCY

NPDES     GROUND WATER     DRINKING WATER

UST     RCRA     OTHER     POTW

Site Location: MO  
STATE: MO

## Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left) SAMPLE TYPE: (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test Y/N	8260 VOCs N N N N N N N N N N N N N N N N N N	6010 Fe, Mn N N N N N N N N N N N N N N N N N N	Sulfide TOC N N N N N N N N N N N N N N N N N N	Alkalinity TDS N N N N N N N N N N N N N N N N N N	Nitrate Carbon Dioxide N N N N N N N N N N N N N N N N N N	Methane/Ethane/Ethene Sulfate/Chloride N N N N N N N N N N N N N N N N N N	8141 Alachlor N N N N N N N N N N N N N N N N N N	Residual Chlorine (Y/N) N N N N N N N N N N N N N N N N N N	Pace Project No./Lab I.D. 60C29866				
				DATE	TIME	DATE	TIME																	
1	OBW-3-092612	WT G 1530 15	9/26 845	9/26 131	1530 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Blu 10114 09/26 012	
2	TB-3	WT G LAB LAB		2	2	X																		20111111 (TM) 013
3		WT G																						
4		WT G																						
5		WT G																						
6		WT G																						
7		WT G																						
8		WT G																						
9		WT G																						
10		WT G																						
11		WT G																						
12		WT G																						

## ADDITIONAL COMMENTS

## RELINQUISHED BY / AFFILIATION

DATE

TIME

## ACCEPTED BY / AFFILIATION

DATE

TIME

## SAMPLE CONDITIONS

11 Y Y Y  
2.1  
3.9

## SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

*Derek Bourassa*

SIGNATURE of SAMPLER:

DATE Signed  
(MM/DD/YY): 09/26/12

Temp in °C  
Received on Ice (Y/N)  
Custody Sealed Cooler (Y/N)  
Samples intact (Y/N)



## Sample Condition Upon Receipt

Client Name: Env. Ops Project # 100129866

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other V1A  
 Tracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  No

Custody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other \_\_\_\_\_

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Cooler Temperature: 11, 2, 1, 39 Date and Initials of person examining contents: 9/27/12 (S)

Temperature should be above freezing to 6°C

Comments:

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. No <sup>3</sup>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	WT	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. Rec-1 - 092612 BP37 initial pH 8.0, added 2.5 mL NaOH, final pH 10.5
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>9/27/12</u> Lot # of added preservative <u>12336</u>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased): <u>9/1012-3</u>		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>NC</u>

Client Notification/ Resolution:	Copy COC to Client?	Y / N
Person Contacted:		Date/Time:
Comments/ Resolution:		

Project Manager Review: \_\_\_\_\_ Date: 9/27/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

November 12, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 40

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nevada Certification #: MN\_00064  
Nebraska Certification #: Pace  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

Page 2 of 40

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60129973003	VW-1-092712	Water	09/27/12 14:40	09/28/12 08:00
60129973004	VW-2-092712	Water	09/27/12 14:00	09/28/12 08:00
60129973005	MW-25A-092712	Water	09/27/12 13:00	09/28/12 08:00
60129973006	MW-2B-092712	Water	09/27/12 10:40	09/28/12 08:00
60129973007	MW-2A-092712	Water	09/27/12 09:40	09/28/12 08:00
60129973008	FBCSA-MW-5-092712	Water	09/27/12 12:50	09/28/12 08:00
60129973009	FBCSA-MW-5-092712-AD	Water	09/27/12 12:00	09/28/12 08:00
60129973010	TB-4	Water	09/27/12 00:00	09/28/12 08:00

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Page 3 of 40



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Lenexa, KS 66219  
(913)599-5665

## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129973003	VW-1-092712	RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129973004	VW-2-092712	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60129973005	MW-25A-092712	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60129973006	MW-2B-092712	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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Page 4 of 40

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60129973007	MW-2A-092712	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
60129973008	FBCSA-MW-5-092712	EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60129973009	FBCSA-MW-5-092712-AD	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K

### REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
60129973010	TB-4	EPA 5030B/8260	JTK	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

Page 6 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: VW-1-092712	Lab ID: 60129973003	Collected: 09/27/12 14:40	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/03/12 13:33	74-84-0	
Ethene	ND ug/L		6.2	1		10/03/12 13:33	74-85-1	
Methane	3520 ug/L		6.6	1		10/03/12 13:33	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	11100 ug/L		50.0	1	10/01/12 18:45	10/06/12 12:44	7439-89-6	
Manganese	512 ug/L		5.0	1	10/01/12 18:45	10/06/12 12:44	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	11.4 ug/L		10.0	1		10/02/12 19:50	67-64-1	
Benzene	6.9 ug/L		1.0	1		10/02/12 19:50	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/02/12 19:50	75-15-0	
Chlorobenzene	586 ug/L		5.0	5		10/02/12 20:05	108-90-7	
Chloroform	ND ug/L		1.0	1		10/02/12 19:50	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/12 19:50	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 19:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 19:50	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/02/12 19:50	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/02/12 19:50	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/02/12 19:50	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/02/12 19:50	127-18-4	
Toluene	ND ug/L		1.0	1		10/02/12 19:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/12 19:50	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/02/12 19:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/02/12 19:50	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/02/12 19:50	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	1		10/02/12 19:50	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		10/02/12 19:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		80-120	1		10/02/12 19:50	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		10/02/12 19:50	2037-26-5	
Preservation pH	1.0		0.10	1		10/02/12 19:50		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	502 mg/L		20.0	1		10/01/12 10:58		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	620 mg/L		5.0	1		10/01/12 15:47		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/04/12 16:44	18496-25-8	

Date: 11/12/2012 04:12 PM

## REPORT OF LABORATORY ANALYSIS

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Page 7 of 40



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Lenexa, KS 66219  
(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

Sample: VW-1-092712	Lab ID: 60129973003	Collected: 09/27/12 14:40	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	6.2 mg/L		1.0	1		10/03/12 17:01	16887-00-6	
Sulfate	20.5 mg/L		2.0	2		10/03/12 17:16	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		09/28/12 19:52		
Nitrogen, Nitrite	ND mg/L		0.10	1		09/28/12 19:52		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		09/28/12 19:52		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.1 mg/L		1.0	1		10/10/12 09:56	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	467 mg/L		20.0	1		10/01/12 14:43	124-38-9	

Date: 11/12/2012 04:12 PM

## REPORT OF LABORATORY ANALYSIS

Page 8 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: VW-2-092712	Lab ID: 60129973004	Collected: 09/27/12 14:00	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	9.1	ug/L	6.2	1		10/03/12 15:21	74-84-0	
Ethene	ND	ug/L	6.2	1		10/03/12 15:21	74-85-1	
Methane	4000	ug/L	6.6	1		10/03/12 15:21	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	5600	ug/L	50.0	1	10/01/12 18:45	10/06/12 12:48	7439-89-6	
Manganese	1020	ug/L	5.0	1	10/01/12 18:45	10/06/12 12:48	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	66.0	ug/L	10.0	1		10/02/12 20:21	67-64-1	
Benzene	16.3	ug/L	1.0	1		10/02/12 20:21	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		10/02/12 20:21	75-15-0	
Chlorobenzene	923	ug/L	10.0	10		10/02/12 20:36	108-90-7	
Chloroform	ND	ug/L	1.0	1		10/02/12 20:21	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/12 20:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/12 20:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/12 20:21	156-60-5	
Ethylbenzene	1.4	ug/L	1.0	1		10/02/12 20:21	100-41-4	
Iodomethane	ND	ug/L	10.0	1		10/02/12 20:21	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		10/02/12 20:21	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		10/02/12 20:21	127-18-4	
Toluene	1.6	ug/L	1.0	1		10/02/12 20:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/12 20:21	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		10/02/12 20:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/02/12 20:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/02/12 20:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106 %		80-120	1		10/02/12 20:21	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	1		10/02/12 20:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		80-120	1		10/02/12 20:21	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		10/02/12 20:21	2037-26-5	
Preservation pH	1.0		0.10	1		10/02/12 20:21		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	979	mg/L	20.0	1		10/01/12 11:06		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1180	mg/L	5.0	1		10/02/12 14:20		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.11	mg/L	0.050	1		10/04/12 16:44	18496-25-8	

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Page 9 of 40



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: VW-2-092712 Lab ID: 60129973004 Collected: 09/27/12 14:00 Received: 09/28/12 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	37.0	mg/L	2.0	2		10/03/12 17:48	16887-00-6	
Sulfate	1.1	mg/L	1.0	1		10/03/12 17:32	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 19:51		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 19:51		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 19:51		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	13.2	mg/L	1.0	1		10/10/12 10:10	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	911	mg/L	20.0	1		10/01/12 14:43	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 10 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-25A-092712      Lab ID: 60129973005      Collected: 09/27/12 13:00      Received: 09/28/12 08:00      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/03/12 16:36	74-84-0	
Ethene	ND ug/L		6.2	1		10/03/12 16:36	74-85-1	
Methane	<b>6570 ug/L</b>		6.6	1		10/03/12 16:36	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	<b>173 ug/L</b>		50.0	1	10/01/12 18:45	10/06/12 12:51	7439-89-6	
Manganese	<b>46.3 ug/L</b>		5.0	1	10/01/12 18:45	10/06/12 12:51	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 19:06	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 19:06	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 19:06	75-15-0	
Chlorobenzene	<b>4.9 ug/L</b>		1.0	1		10/01/12 19:06	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 19:06	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 19:06	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 19:06	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 19:06	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/01/12 19:06	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/01/12 19:06	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 19:06	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 19:06	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 19:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 19:06	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 19:06	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 19:06	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 19:06	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	<b>100 %</b>		80-120	1		10/01/12 19:06	460-00-4	
Dibromofluoromethane (S)	<b>98 %</b>		80-120	1		10/01/12 19:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	<b>97 %</b>		80-120	1		10/01/12 19:06	17060-07-0	
Toluene-d8 (S)	<b>99 %</b>		80-120	1		10/01/12 19:06	2037-26-5	
Preservation pH	<b>1.0</b>		0.10	1		10/01/12 19:06		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>930 mg/L</b>		20.0	1		10/01/12 11:15		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	<b>1140 mg/L</b>		5.0	1		10/02/12 14:21		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	<b>8.2 Std. Units</b>		0.10	1		10/01/12 14:42		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<b>0.093 mg/L</b>		0.050	1		10/04/12 16:45	18496-25-8	

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Page 11 of 40



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-25A-092712	Lab ID: 60129973005	Collected: 09/27/12 13:00	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	<b>38.6</b>	mg/L	5.0	5		10/03/12 21:38	16887-00-6	
Sulfate	<b>3.1</b>	mg/L	1.0	1		10/03/12 18:04	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 19:50		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 19:50		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 19:50		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	<b>20.4</b>	mg/L	1.0	1		10/10/12 10:24	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	<b>830</b>	mg/L	20.0	1		10/01/12 14:43	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-2B-092712	Lab ID: 60129973006	Collected: 09/27/12 10:40	Received: 09/28/12 08:00	Matrix: Water
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Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND	ug/L	6.2	1		10/03/12 16:47	74-84-0	
Ethene	ND	ug/L	6.2	1		10/03/12 16:47	74-85-1	
Methane	ND	ug/L	6.6	1		10/03/12 16:47	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	354	ug/L	50.0	1	10/01/12 18:45	10/06/12 12:55	7439-89-6	
Manganese	479	ug/L	5.0	1	10/01/12 18:45	10/06/12 12:55	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		10/01/12 19:21	67-64-1	
Benzene	ND	ug/L	1.0	1		10/01/12 19:21	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		10/01/12 19:21	75-15-0	
Chlorobenzene	ND	ug/L	1.0	1		10/01/12 19:21	108-90-7	
Chloroform	ND	ug/L	1.0	1		10/01/12 19:21	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/01/12 19:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/01/12 19:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/01/12 19:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/01/12 19:21	100-41-4	
Iodomethane	ND	ug/L	10.0	1		10/01/12 19:21	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		10/01/12 19:21	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		10/01/12 19:21	127-18-4	
Toluene	ND	ug/L	1.0	1		10/01/12 19:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/01/12 19:21	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		10/01/12 19:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/01/12 19:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/01/12 19:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		10/01/12 19:21	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	1		10/01/12 19:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/01/12 19:21	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/01/12 19:21	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 19:21		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	381	mg/L	20.0	1		10/01/12 11:29		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1080	mg/L	5.0	1		10/02/12 14:21		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/04/12 16:45	18496-25-8	

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Page 13 of 40

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-2B-092712	Lab ID: 60129973006	Collected: 09/27/12 10:40	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	227	mg/L	20.0	20		10/03/12 19:06	16887-00-6	
Sulfate	204	mg/L	20.0	20		10/03/12 19:06	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 19:45		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 19:45		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 19:45		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.6	mg/L	1.0	1		10/10/12 10:38	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	374	mg/L	20.0	1		10/01/12 14:43	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-2A-092712	Lab ID: 60129973007	Collected: 09/27/12 09:40	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/03/12 17:27	74-84-0	
Ethene	ND ug/L		6.2	1		10/03/12 17:27	74-85-1	
Methane	ND ug/L		6.6	1		10/03/12 17:27	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	642 ug/L		50.0	1	10/01/12 18:45	10/06/12 12:58	7439-89-6	
Manganese	474 ug/L		5.0	1	10/01/12 18:45	10/06/12 12:58	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/01/12 19:37	67-64-1	
Benzene	ND ug/L		1.0	1		10/01/12 19:37	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/01/12 19:37	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/01/12 19:37	108-90-7	
Chloroform	ND ug/L		1.0	1		10/01/12 19:37	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/01/12 19:37	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 19:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/01/12 19:37	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/01/12 19:37	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/01/12 19:37	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/01/12 19:37	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/01/12 19:37	127-18-4	
Toluene	ND ug/L		1.0	1		10/01/12 19:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/01/12 19:37	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/01/12 19:37	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/01/12 19:37	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/01/12 19:37	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	97 %		80-120	1		10/01/12 19:37	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	1		10/01/12 19:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		10/01/12 19:37	17060-07-0	
Toluene-d8 (S)	103 %		80-120	1		10/01/12 19:37	2037-26-5	
Preservation pH	1.0		0.10	1		10/01/12 19:37		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	402 mg/L		20.0	1		10/01/12 11:33		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	771 mg/L		5.0	1		10/02/12 14:21		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/04/12 16:45	18496-25-8	

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Page 15 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: MW-2A-092712	Lab ID: 60129973007	Collected: 09/27/12 09:40	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	75.5 mg/L		10.0	10		10/03/12 19:22	16887-00-6	
Sulfate	152 mg/L		10.0	10		10/03/12 19:22	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.21 mg/L		0.10	1		09/28/12 19:39		M1
Nitrogen, Nitrite	ND mg/L		0.10	1		09/28/12 19:39		
Nitrogen, NO2 plus NO3	0.22 mg/L		0.10	1		09/28/12 19:39		M1
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.8 mg/L		1.0	1		10/10/12 10:52	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	455 mg/L		20.0	1		10/01/12 14:43	124-38-9	

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Page 16 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: FBCSA-MW-5-092712	Lab ID: 60129973008	Collected: 09/27/12 12:50	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/03/12 17:38	74-84-0	
Ethene	ND ug/L		6.2	1		10/03/12 17:38	74-85-1	
Methane	2560 ug/L		6.6	1		10/03/12 17:38	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	8130 ug/L		50.0	1	10/01/12 18:45	10/06/12 13:08	7439-89-6	M1
Manganese	3350 ug/L		5.0	1	10/01/12 18:45	10/06/12 13:08	7439-96-5	M1
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/02/12 22:24	67-64-1	
Benzene	5.5 ug/L		1.0	1		10/02/12 22:24	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/02/12 22:24	75-15-0	
Chlorobenzene	214 ug/L		5.0	5		10/03/12 21:31	108-90-7	
Chloroform	ND ug/L		1.0	1		10/02/12 22:24	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/12 22:24	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 22:24	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 22:24	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/02/12 22:24	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/02/12 22:24	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/02/12 22:24	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/02/12 22:24	127-18-4	
Toluene	ND ug/L		1.0	1		10/02/12 22:24	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/12 22:24	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/02/12 22:24	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/02/12 22:24	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/02/12 22:24	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	108 %		80-120	1		10/02/12 22:24	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	1		10/02/12 22:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		80-120	1		10/02/12 22:24	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/02/12 22:24	2037-26-5	
Preservation pH	1.0		0.10	1		10/02/12 22:24		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	947 mg/L		20.0	1		10/01/12 11:42		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1100 mg/L		5.0	1		10/02/12 14:21		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/04/12 16:45	18496-25-8	M1

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Page 17 of 40

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: FBCSA-MW-5-092712	Lab ID: 60129973008	Collected: 09/27/12 12:50	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	18.3	mg/L	5.0	5		10/03/12 19:38	16887-00-6	
Sulfate	62.0	mg/L	5.0	5		10/03/12 19:38	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 19:48		M1
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 19:48		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		09/28/12 19:48		M1
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	10.8	mg/L	1.0	1		10/10/12 11:06	7440-44-0	M1
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	984	mg/L	20.0	1		10/01/12 14:43	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 18 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: FBCSA-MW-5-092712-AD	Lab ID: 60129973009	Collected: 09/27/12 12:00	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/03/12 17:48	74-84-0	
Ethene	ND ug/L		6.2	1		10/03/12 17:48	74-85-1	
Methane	1310 ug/L		6.6	1		10/03/12 17:48	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	7380 ug/L		50.0	1	10/01/12 18:45	10/06/12 13:18	7439-89-6	
Manganese	3480 ug/L		5.0	1	10/01/12 18:45	10/06/12 13:18	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/02/12 23:10	67-64-1	
Benzene	7.8 ug/L		1.0	1		10/02/12 23:10	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/02/12 23:10	75-15-0	
Chlorobenzene	209 ug/L		5.0	5		10/03/12 21:47	108-90-7	
Chloroform	ND ug/L		1.0	1		10/02/12 23:10	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/12 23:10	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 23:10	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 23:10	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/02/12 23:10	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/02/12 23:10	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/02/12 23:10	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/02/12 23:10	127-18-4	
Toluene	ND ug/L		1.0	1		10/02/12 23:10	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/12 23:10	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/02/12 23:10	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/02/12 23:10	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/02/12 23:10	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	1		10/02/12 23:10	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		10/02/12 23:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/02/12 23:10	17060-07-0	
Toluene-d8 (S)	105 %		80-120	1		10/02/12 23:10	2037-26-5	
Preservation pH	1.0		0.10	1		10/02/12 23:10		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	921 mg/L		20.0	1		10/01/12 11:58		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1100 mg/L		5.0	1		10/02/12 14:22		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		10/02/12 14:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/04/12 16:45	18496-25-8	

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Page 19 of 40

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: FBCSA-MW-5-092712-AD	Lab ID: 60129973009	Collected: 09/27/12 12:00	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	18.9	mg/L	5.0	5		10/03/12 20:25	16887-00-6	
Sulfate	57.2	mg/L	5.0	5		10/03/12 20:25	14808-79-8	
<b>353.2 Nitrogen, NO<sub>2</sub>/NO<sub>3</sub> unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/28/12 19:47		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/28/12 19:47		
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	ND	mg/L	0.10	1		09/28/12 19:47		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.5	mg/L	1.0	1		10/10/12 11:34	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO <sub>2</sub> D							
Carbon dioxide	927	mg/L	20.0	1		10/01/12 14:43	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 20 of 40

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Sample: TB-4	Lab ID: 60129973010	Collected: 09/27/12 00:00	Received: 09/28/12 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/02/12 23:26	67-64-1	
Benzene	ND ug/L		1.0	1		10/02/12 23:26	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/02/12 23:26	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/02/12 23:26	108-90-7	
Chloroform	ND ug/L		1.0	1		10/02/12 23:26	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/02/12 23:26	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 23:26	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/02/12 23:26	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/02/12 23:26	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/02/12 23:26	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/02/12 23:26	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/02/12 23:26	127-18-4	
Toluene	ND ug/L		1.0	1		10/02/12 23:26	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/02/12 23:26	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/02/12 23:26	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/02/12 23:26	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/02/12 23:26	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		10/02/12 23:26	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		10/02/12 23:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		80-120	1		10/02/12 23:26	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/02/12 23:26	2037-26-5	
Preservation pH	1.0		0.10	1		10/02/12 23:26		



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

QC Batch: AIR/15871 Analysis Method: RSK 175  
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE  
Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

METHOD BLANK: 1301278 Matrix: Water  
Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/03/12 12:51	
Ethene	ug/L	ND	6.2	10/03/12 12:51	
Methane	ug/L	ND	6.6	10/03/12 12:51	

LABORATORY CONTROL SAMPLE & LCSD: 1301279 1301280

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	100	97.9	88	86	70-130	3	30	
Ethene	ug/L	106	93.8	91.8	88	87	70-130	2	30	
Methane	ug/L	60.7	54.4	54.3	90	90	70-130	.09	30	

SAMPLE DUPLICATE: 1302192

Parameter	Units	60129973001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	516	528	2	30	
Ethene	ug/L	304	315	4	30	
Methane	ug/L	14200	14400	1	30 E	

SAMPLE DUPLICATE: 1302193

Parameter	Units	92132832010 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch: MPRP/19731 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

METHOD BLANK: 1070983 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/06/12 11:31	
Manganese	ug/L	ND	5.0	10/06/12 11:31	

LABORATORY CONTROL SAMPLE: 1070984

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	992	99	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1070985 1070986

Parameter	Units	60129973008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	8130	10000	10000	15400	15200	73	71	75-125	1	20	M1
Manganese	ug/L	3350	1000	1000	4100	3990	75	64	75-125	3	20	M1



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch: MSV/48896 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60129973005, 60129973006, 60129973007

METHOD BLANK: 1070870 Matrix: Water

Associated Lab Samples: 60129973005, 60129973006, 60129973007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/01/12 18:04	
1,2-Dichloroethane	ug/L	ND	1.0	10/01/12 18:04	
Acetone	ug/L	ND	10.0	10/01/12 18:04	
Benzene	ug/L	ND	1.0	10/01/12 18:04	
Carbon disulfide	ug/L	ND	5.0	10/01/12 18:04	
Chlorobenzene	ug/L	ND	1.0	10/01/12 18:04	
Chloroform	ug/L	ND	1.0	10/01/12 18:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Ethylbenzene	ug/L	ND	1.0	10/01/12 18:04	
Iodomethane	ug/L	ND	10.0	10/01/12 18:04	
Methylene chloride	ug/L	ND	1.0	10/01/12 18:04	
Tetrachloroethene	ug/L	ND	1.0	10/01/12 18:04	
Toluene	ug/L	ND	1.0	10/01/12 18:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Trichloroethene	ug/L	ND	1.0	10/01/12 18:04	
Vinyl chloride	ug/L	ND	1.0	10/01/12 18:04	
Xylene (Total)	ug/L	ND	3.0	10/01/12 18:04	
1,2-Dichloroethane-d4 (S)	%	96	80-120	10/01/12 18:04	
4-Bromofluorobenzene (S)	%	108	80-120	10/01/12 18:04	
Dibromofluoromethane (S)	%	99	80-120	10/01/12 18:04	
Toluene-d8 (S)	%	101	80-120	10/01/12 18:04	

LABORATORY CONTROL SAMPLE: 1070871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	89	76-120	
1,2-Dichloroethane	ug/L	20	17.7	89	72-123	
Acetone	ug/L	100	79.0	79	40-160	
Benzene	ug/L	20	18.3	92	74-123	
Carbon disulfide	ug/L	20	17.2	86	67-135	
Chlorobenzene	ug/L	20	19.3	96	80-120	
Chloroform	ug/L	20	17.6	88	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.7	84	70-120	
Ethylbenzene	ug/L	20	19.9	99	76-123	
Iodomethane	ug/L	20	14.5	73	40-160	
Methylene chloride	ug/L	20	17.4	87	72-127	
Tetrachloroethene	ug/L	20	17.9	89	78-121	
Toluene	ug/L	20	19.3	97	75-123	
trans-1,2-Dichloroethene	ug/L	20	17.1	86	80-129	
Trichloroethene	ug/L	20	18.5	92	74-120	
Vinyl chloride	ug/L	20	19.6	98	50-140	

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Page 24 of 40

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

LABORATORY CONTROL SAMPLE: 1070871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	59.6	99	76-123	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Dibromofluoromethane (S)	%			93	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1070872      1070873

Parameter	Units	60129866006 Result	MS	MSD	MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
			Spike Conc.	Spike Conc.					RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	2000	2000	1830	91	86	62-146	6	32	
1,2-Dichloroethane	ug/L	ND	2000	2000	1950	1740	98	87	52-146	12	35
Acetone	ug/L	ND	10000	10000	8140	8710	81	87	40-151	7	35
Benzene	ug/L	ND	2000	2000	1840	1780	92	89	40-155	4	45
Carbon disulfide	ug/L	ND	2000	2000	1420	1430	71	72	55-153	1	32
Chlorobenzene	ug/L	4170	2000	2000	6010	5890	92	86	54-141	2	31
Chloroform	ug/L	ND	2000	2000	1830	1830	92	92	59-138	0	29
cis-1,2-Dichloroethene	ug/L	181000		146000	138000				5	34	
Ethylbenzene	ug/L	ND	2000	2000	1910	1890	95	95	40-158	1	48
Iodomethane	ug/L	ND	2000	2000	1380	1430	69	71	40-132	3	44
Methylene chloride	ug/L	ND	2000	2000	1890	1750	95	88	60-137	8	28
Tetrachloroethene	ug/L	984	2000	2000	2720	2840	87	93	54-152	4	35
Toluene	ug/L	ND			1940	1980			2	46	
trans-1,2-Dichloroethene	ug/L	ND	2000	2000	1770	1700	85	81	66-152	4	30
Trichloroethene	ug/L	370	2000	2000	2190	2050	91	84	51-146	7	34
Vinyl chloride	ug/L	15100	2000	2000	16400	16400	64	64	40-160	0	30
Xylene (Total)	ug/L	ND	6000	6000	5300	5580	88	93	40-151	5	45
1,2-Dichloroethane-d4 (S)	%					91	99	80-120			
4-Bromofluorobenzene (S)	%					100	106	80-120			
Dibromofluoromethane (S)	%					101	99	80-120			
Toluene-d8 (S)	%					90	103	80-120			
Preservation pH		1.0			1.0	1.0			0		

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### REPORT OF LABORATORY ANALYSIS

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Page 25 of 40



Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa, KS 66219

(913)599-5665

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	MSV/48929	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60129973003, 60129973004, 60129973008, 60129973009, 60129973010		

METHOD BLANK: 1071779 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973008, 60129973009, 60129973010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/12 19:35	
1,2-Dichloroethane	ug/L	ND	1.0	10/02/12 19:35	
Acetone	ug/L	ND	10.0	10/02/12 19:35	
Benzene	ug/L	ND	1.0	10/02/12 19:35	
Carbon disulfide	ug/L	ND	5.0	10/02/12 19:35	
Chlorobenzene	ug/L	ND	1.0	10/02/12 19:35	
Chloroform	ug/L	ND	1.0	10/02/12 19:35	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/12 19:35	
Ethylbenzene	ug/L	ND	1.0	10/02/12 19:35	
Iodomethane	ug/L	ND	10.0	10/02/12 19:35	
Methylene chloride	ug/L	ND	1.0	10/02/12 19:35	
Tetrachloroethene	ug/L	ND	1.0	10/02/12 19:35	
Toluene	ug/L	ND	1.0	10/02/12 19:35	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/12 19:35	
Trichloroethene	ug/L	ND	1.0	10/02/12 19:35	
Vinyl chloride	ug/L	ND	1.0	10/02/12 19:35	
Xylene (Total)	ug/L	ND	3.0	10/02/12 19:35	
1,2-Dichloroethane-d4 (S)	%	100	80-120	10/02/12 19:35	
4-Bromofluorobenzene (S)	%	98	80-120	10/02/12 19:35	
Dibromofluoromethane (S)	%	100	80-120	10/02/12 19:35	
Toluene-d8 (S)	%	103	80-120	10/02/12 19:35	

LABORATORY CONTROL SAMPLE: 1071780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.8	94	76-120	
1,2-Dichloroethane	ug/L	20	19.0	95	72-123	
Acetone	ug/L	100	91.0	91	40-160	
Benzene	ug/L	20	19.7	99	74-123	
Carbon disulfide	ug/L	20	18.3	92	67-135	
Chlorobenzene	ug/L	20	19.5	97	80-120	
Chloroform	ug/L	20	18.8	94	77-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-120	
Ethylbenzene	ug/L	20	19.8	99	76-123	
Iodomethane	ug/L	20	19.5	97	40-160	
Methylene chloride	ug/L	20	20.1	101	72-127	
Tetrachloroethene	ug/L	20	20.2	101	78-121	
Toluene	ug/L	20	20.1	100	75-123	
trans-1,2-Dichloroethene	ug/L	20	20.0	100	80-129	
Trichloroethene	ug/L	20	19.2	96	74-120	
Vinyl chloride	ug/L	20	20.4	102	50-140	

Date: 11/12/2012 04:12 PM

## REPORT OF LABORATORY ANALYSIS

Page 26 of 40

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

LABORATORY CONTROL SAMPLE: 1071780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	60.1	100	76-123	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1071781 1071782

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
		60129973008	Result	Spike Conc.	MS Result				RPD	RPD	
1,1,1-Trichloroethane	ug/L	ND	20	20	26.7	24.6	133	123	62-146	8	32
1,2-Dichloroethane	ug/L	ND	20	20	24.8	22.7	124	113	52-146	9	35
Acetone	ug/L	ND	100	100	144	140	144	140	40-151	3	35
Benzene	ug/L	5.5	20	20	31.5	29.0	130	117	40-155	8	45
Carbon disulfide	ug/L	ND	20	20	25.0	22.4	125	112	55-153	11	32
Chlorobenzene	ug/L	214			260	257				1	31
Chloroform	ug/L	ND	20	20	25.9	24.6	130	123	59-138	5	29
cis-1,2-Dichloroethene	ug/L	ND	20	20	25.6	24.3	127	120	46-144	5	34
Ethylbenzene	ug/L	ND	20	20	26.2	25.1	131	126	40-158	4	48
Iodomethane	ug/L	ND	20	20	22.6	22.0	113	110	40-132	3	44
Methylene chloride	ug/L	ND	20	20	25.7	22.3	128	111	60-137	14	28
Tetrachloroethene	ug/L	ND	20	20	25.0	25.0	125	125	54-152	0	35
Toluene	ug/L	ND	20	20	26.2	23.3	131	117	42-151	11	46
trans-1,2-Dichloroethene	ug/L	ND	20	20	26.3	23.5	132	117	66-152	12	30
Trichloroethene	ug/L	ND	20	20	25.6	23.2	128	116	51-146	10	34
Vinyl chloride	ug/L	ND	20	20	28.9	26.1	145	130	40-160	10	30
Xylene (Total)	ug/L	ND	60	60	78.7	73.6	131	123	40-151	7	45
1,2-Dichloroethane-d4 (S)	%						95	93	80-120		
4-Bromofluorobenzene (S)	%						104	99	80-120		
Dibromofluoromethane (S)	%						100	96	80-120		
Toluene-d8 (S)	%						99	97	80-120		
Preservation pH			1.0			1.0	1.0			0	

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Page 27 of 40

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	MSV/48964	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples: 60129973008, 60129973009			

METHOD BLANK: 1072358 Matrix: Water

Associated Lab Samples: 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/L	ND	1.0	10/03/12 21:16	
1,2-Dichloroethane-d4 (S)	%	93	80-120	10/03/12 21:16	
4-Bromofluorobenzene (S)	%	102	80-120	10/03/12 21:16	
Dibromofluoromethane (S)	%	99	80-120	10/03/12 21:16	
Toluene-d8 (S)	%	100	80-120	10/03/12 21:16	

LABORATORY CONTROL SAMPLE: 1072359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	18.3	91	80-120	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			96	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

Date: 11/12/2012 04:12 PM

## REPORT OF LABORATORY ANALYSIS

Page 28 of 40

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	WET/37417	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009			

METHOD BLANK: 1070550 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	10/01/12 09:26	

LABORATORY CONTROL SAMPLE: 1070551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	490	98	90-110	

SAMPLE DUPLICATE: 1070552

Parameter	Units	60130058004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	88.4	90.3	2	9	

SAMPLE DUPLICATE: 1070553

Parameter	Units	60129973008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	947	951	0	9	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	WET/37440	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples: 60129973003			

METHOD BLANK: 1070930	Matrix: Water
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Associated Lab Samples: 60129973003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/01/12 15:44	

SAMPLE DUPLICATE: 1070931

Parameter	Units	60129930001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	24100	24300	1	17	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch: WET/37463 Analysis Method: SM 2540C  
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids  
Associated Lab Samples: 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

METHOD BLANK: 1071669 Matrix: Water

Associated Lab Samples: 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/02/12 14:20	

SAMPLE DUPLICATE: 1071670

Parameter	Units	60129973004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1180	1170	1	17	

SAMPLE DUPLICATE: 1071671

Parameter	Units	60129978004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3050	3040	0	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60129973

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QC Batch:	WET/37422	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples: 60129973003, 60129973004, 60129973006, 60129973007, 60129973008, 60129973009			

---

SAMPLE DUPLICATE: 1070602

Parameter	Units	60129866006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

---

SAMPLE DUPLICATE: 1070603

Parameter	Units	60129973008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.0	0	5	H6

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	WET/37424	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples:	60129973005		

SAMPLE DUPLICATE: 1070605

Parameter	Units	60129975001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	1	5	H6

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	WET/37496	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009			

METHOD BLANK: 1073072 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/04/12 16:33	

LABORATORY CONTROL SAMPLE: 1073073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.52	105	80-120	

MATRIX SPIKE SAMPLE: 1073075

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.22	42	75-125	M1

MATRIX SPIKE SAMPLE: 1073076

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.39	75	75-125	

SAMPLE DUPLICATE: 1073074

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	60129966002	2.7	2.7	0	20

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch: WETA/21860 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

METHOD BLANK: 1071256 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/03/12 13:52	
Sulfate	mg/L	ND	1.0	10/03/12 13:52	

LABORATORY CONTROL SAMPLE: 1071257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE SAMPLE: 1071258

Parameter	Units	60129973001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	197	100	291	94	64-118	
Sulfate	mg/L	ND	5	5.8	107	61-119	

MATRIX SPIKE SAMPLE: 1071259

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	18.3	25	42.9	99	64-118	
Sulfate	mg/L	62.0	25	86.9	100	61-119	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch:	WETA/21826	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples:	60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009		

METHOD BLANK: 1069272 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	09/28/12 19:37	
Nitrogen, Nitrite	mg/L	ND	0.10	09/28/12 19:37	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	09/28/12 19:37	

LABORATORY CONTROL SAMPLE: 1069273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1069274

Parameter	Units	60129973007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.21	1.6	2.0	114	90-110	M1
Nitrogen, Nitrite	mg/L	ND	.4	0.43	105	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.22	2	2.5	112	90-110	M1

MATRIX SPIKE SAMPLE: 1069276

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.8	111	90-110	M1
Nitrogen, Nitrite	mg/L	ND	.4	0.43	105	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.2	111	90-110	M1

SAMPLE DUPLICATE: 1069275

Parameter	Units	60129973001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

QC Batch: WETA/21968 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

METHOD BLANK: 1076237 Matrix: Water

Associated Lab Samples: 60129973003, 60129973004, 60129973005, 60129973006, 60129973007, 60129973008, 60129973009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/10/12 07:20	

LABORATORY CONTROL SAMPLE: 1076238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.8	95	80-120	

MATRIX SPIKE SAMPLE: 1076239

Parameter	Units	60129673001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	169	25	207	152	80-120	M1

MATRIX SPIKE SAMPLE: 1076364

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	10.8	5	17.0	124	80-120	M1

## QUALIFIERS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/48964

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60129973

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129973003	VW-1-092712	RSK 175	AIR/15871		
60129973004	VW-2-092712	RSK 175	AIR/15871		
60129973005	MW-25A-092712	RSK 175	AIR/15871		
60129973006	MW-2B-092712	RSK 175	AIR/15871		
60129973007	MW-2A-092712	RSK 175	AIR/15871		
60129973008	FBCSA-MW-5-092712	RSK 175	AIR/15871		
60129973009	FBCSA-MW-5-092712-AD	RSK 175	AIR/15871		
60129973003	VW-1-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973004	VW-2-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973005	MW-25A-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973006	MW-2B-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973007	MW-2A-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973008	FBCSA-MW-5-092712	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973009	FBCSA-MW-5-092712-AD	EPA 3010	MPRP/19731	EPA 6010	ICP/16252
60129973003	VW-1-092712	EPA 5030B/8260	MSV/48929		
60129973004	VW-2-092712	EPA 5030B/8260	MSV/48929		
60129973005	MW-25A-092712	EPA 5030B/8260	MSV/48896		
60129973006	MW-2B-092712	EPA 5030B/8260	MSV/48896		
60129973007	MW-2A-092712	EPA 5030B/8260	MSV/48896		
60129973008	FBCSA-MW-5-092712	EPA 5030B/8260	MSV/48929		
60129973008	FBCSA-MW-5-092712	EPA 5030B/8260	MSV/48964		
60129973009	FBCSA-MW-5-092712-AD	EPA 5030B/8260	MSV/48929		
60129973009	FBCSA-MW-5-092712-AD	EPA 5030B/8260	MSV/48964		
60129973010	TB-4	EPA 5030B/8260	MSV/48929		
60129973003	VW-1-092712	SM 2320B	WET/37417		
60129973004	VW-2-092712	SM 2320B	WET/37417		
60129973005	MW-25A-092712	SM 2320B	WET/37417		
60129973006	MW-2B-092712	SM 2320B	WET/37417		
60129973007	MW-2A-092712	SM 2320B	WET/37417		
60129973008	FBCSA-MW-5-092712	SM 2320B	WET/37417		
60129973009	FBCSA-MW-5-092712-AD	SM 2320B	WET/37417		
60129973003	VW-1-092712	SM 2540C	WET/37440		
60129973004	VW-2-092712	SM 2540C	WET/37463		
60129973005	MW-25A-092712	SM 2540C	WET/37463		
60129973006	MW-2B-092712	SM 2540C	WET/37463		
60129973007	MW-2A-092712	SM 2540C	WET/37463		
60129973008	FBCSA-MW-5-092712	SM 2540C	WET/37463		
60129973009	FBCSA-MW-5-092712-AD	SM 2540C	WET/37463		
60129973003	VW-1-092712	SM 4500-H+B	WET/37422		
60129973004	VW-2-092712	SM 4500-H+B	WET/37422		
60129973005	MW-25A-092712	SM 4500-H+B	WET/37424		
60129973006	MW-2B-092712	SM 4500-H+B	WET/37422		

Date: 11/12/2012 04:12 PM

**REPORT OF LABORATORY ANALYSIS**

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Page 39 of 40

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60129973

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60129973007	<b>MW-2A-092712</b>	SM 4500-H+B	WET/37422		
60129973008	<b>FBCSA-MW-5-092712</b>	SM 4500-H+B	WET/37422		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	SM 4500-H+B	WET/37422		
60129973003	<b>VW-1-092712</b>	SM 4500-S-2 D	WET/37496		
60129973004	<b>VW-2-092712</b>	SM 4500-S-2 D	WET/37496		
60129973005	<b>MW-25A-092712</b>	SM 4500-S-2 D	WET/37496		
60129973006	<b>MW-2B-092712</b>	SM 4500-S-2 D	WET/37496		
60129973007	<b>MW-2A-092712</b>	SM 4500-S-2 D	WET/37496		
60129973008	<b>FBCSA-MW-5-092712</b>	SM 4500-S-2 D	WET/37496		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	SM 4500-S-2 D	WET/37496		
60129973003	<b>VW-1-092712</b>	EPA 300.0	WETA/21860		
60129973004	<b>VW-2-092712</b>	EPA 300.0	WETA/21860		
60129973005	<b>MW-25A-092712</b>	EPA 300.0	WETA/21860		
60129973006	<b>MW-2B-092712</b>	EPA 300.0	WETA/21860		
60129973007	<b>MW-2A-092712</b>	EPA 300.0	WETA/21860		
60129973008	<b>FBCSA-MW-5-092712</b>	EPA 300.0	WETA/21860		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	EPA 300.0	WETA/21860		
60129973003	<b>VW-1-092712</b>	EPA 353.2	WETA/21826		
60129973004	<b>VW-2-092712</b>	EPA 353.2	WETA/21826		
60129973005	<b>MW-25A-092712</b>	EPA 353.2	WETA/21826		
60129973006	<b>MW-2B-092712</b>	EPA 353.2	WETA/21826		
60129973007	<b>MW-2A-092712</b>	EPA 353.2	WETA/21826		
60129973008	<b>FBCSA-MW-5-092712</b>	EPA 353.2	WETA/21826		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	EPA 353.2	WETA/21826		
60129973003	<b>VW-1-092712</b>	SM 5310C	WETA/21968		
60129973004	<b>VW-2-092712</b>	SM 5310C	WETA/21968		
60129973005	<b>MW-25A-092712</b>	SM 5310C	WETA/21968		
60129973006	<b>MW-2B-092712</b>	SM 5310C	WETA/21968		
60129973007	<b>MW-2A-092712</b>	SM 5310C	WETA/21968		
60129973008	<b>FBCSA-MW-5-092712</b>	SM 5310C	WETA/21968		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	SM 5310C	WETA/21968		
60129973003	<b>VW-1-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973004	<b>VW-2-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973005	<b>MW-25A-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973006	<b>MW-2B-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973007	<b>MW-2A-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973008	<b>FBCSA-MW-5-092712</b>	SM 4500-CO2 D	WETA/21991		
60129973009	<b>FBCSA-MW-5-092712-AD</b>	SM 4500-CO2 D	WETA/21991		

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**
**Required Client Information**

<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information		Page: <input type="text"/> of <input type="text"/>	
Company: Environmental Operations	Report To: Larry Rosen	Attention:			
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104	Copy To:	Company Name:	<b>REGULATORY AGENCY</b>		
Email To: larryr@environmentalops.com	Purchase Order No:	Address:	<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
Phone 314-241-0900	Project Name: Solutia Groundwater	Pace Quote Reference:	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER POTW
Requested Due Date/TAT:	Project Number: 2950	Pace Project Manager: Jamie Slade	Site Location: MO	STATE: MO	
		Pace Profile #: <input type="text"/>			

ITEM #	Section D Required Client Information  SAMPLE ID (A-Z, 0-9, -,) Sample #'s MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Requested Analysis Filtered (Y/N)															
		MATRIX	CODE			COMPOSITE START		COMPOSITE ENIJGRAB				Preservatives	Y/N	8260 VOCs	N	N	N	N	N	N	N	N	N	N	N	N	N
1	FF-JWMP-1-092712	WT	G	18834	183N	9/27	1035	9	4	1	3	1	AG	LS	X	X	X	X	X	X	X	X	10323	309A4	3NGA4	01	
2	FF-JWMP-2-092712	WT	G	↓	↓	9/27	0945	9	4	1	3	1	↓		X	X	X	X	X	X	X	X	18141	Alachlor	↓	↓	02
3		WT	G																								
4		WT	G																								
5		WT	G																								
6		WT	G																								
7		WT	G																								
8		WT	G																								
9		WT	G																								
10		WT	G																								
11		WT	G																								
12		WT	G																								

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			
				9/27	1530	E Brokett		7/28	0800	34	Y	Y	Y
										3.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER: <i>Deek Bourhard</i>							
SIGNATURE of SAMPLER: <i>Deek Bourhard</i>				DATE Signed (MM/DD/YY): <i>09/28/12</i>			



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**
**Required Client Information**

Company Environmental Operations		Report To: Larry Rosen	Attention:	Page: _____ of _____	
Address 1530 S Second St Ste 200	Copy To:	Company Name	REGULATORY AGENCY		
St. Louis, MO 63104		Address:	<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
Email To: larryr@environmentalops.com	Purchase Order No:	Pace Quote Reference:	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER POTW _____
Phone: 314-241-0900	Project Name: Solutia Groundwater	Pace Project Manager: Jamie Slade	Site Location: MO		
Fax 314-436-2900	Project Number: 2950	Pace Profile #:	STATE: MO		
Requested Due Date/TAT:					

ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Requested Analysis Filtered (Y/N)																		
		MATRIX	CODE			COMPOSITE START		COMPOSITE END/GRAB				Preservatives																		
		DRINKING WATER	DW			DATE	TIME	DATE	TIME			H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH + Zn	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Y/N	B260 VOCs	6010 Fe, Mn	Sulfide	TOC	Alkalinity	TDS	Carbon Dioxide	Sulfate/Chloride	Nitrate	Methane/Ethane/Ethene	8141 Alachlor
1	VW-1-092712	WT	G	1834	1A63S	9/27	1440	9	4	Unpreserved	9	4	1	3	1	1832	1	5	X	X	X	X	X	X	X	X	X	X	3167H-3V694	a3
2	VW-2-092712	WT	G			9/27	1400	9	4		9	4	1	3	1															c4
3	MW-25A-092712	WT	G			9/27	1300	9	4		9	4	1	3	1															c5
4	MW-2B-092712	WT	G			9/27	1040	9	4		9	4	1	3	1															c6
5	MW-2A-092712	WT	G	↓	↓	9/27	0940	9	4		9	4	1	3	1	↓													c7	
6	FBCSA-5-092712	WT	G	3834	3A63	9/27	1250	9	4		9	4	1	3	1	3022	1	5	X	X	X	X	X	X	X	X	X	X	9164H-9V694	a8
7	FBCSA-5-092712-AD	WT	G			9/27	1200	9	4		9	4	1	3	1															a9
8	FBCSA-5-092712-MD	WT	G			9/27	1200	13	8		13	8	2	6	2														MS/MD	
9	TB-4	WT	G	2067H-13		LAB	LAB	2	2		2								X										010	
10		WT	G																											
11		WT	G																											
12		WT	G																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
	Dave B	9/27	1530	E Bruckett	9/28	0800	3.4	✓
							3.1	✓
								✓
								✓

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:	Dave Bruckett				
SIGNATURE of SAMPLER:					
DATE Signed (MM/DD/YY): 09/28/12					



## Sample Condition Upon Receipt

Client Name: Environmental Project # 60129973

## Operations

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other N/ATracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  NoCustody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  NoPacking Material:  Bubble Wrap  Bubble Bags  Foam  None  Other \_\_\_\_\_Thermometer Used: T-181 / T-194 Type of Ice: Wet Blue None  Samples on ice, cooling process has begunCooler Temperature: 3.4, 3.1

Temperature should be above freezing to 6°C

## Comments:

Date and Initials of person examining contents: 9/28/12 JK

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>N O<sup>3</sup></u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	<u>WT</u>	
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>FBCSA-5-092712, AD, MD FF-IWMP-1-898712</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Initial ph on BP3C 85, added 2.5 mL NaOH, final</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>JK</u> Lot # of added preservative <u>12336</u> <u>ph 105</u>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased):	<u>091012-3</u>	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>NC</u>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 9/28/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

October 25, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOUTIA GROUNDWATER  
Pace Project No.: 60130206 REVISION, REV-1, Results for 60130206 005 1,2-dichloroethane added

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature of Jamie Church.

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 34

PacePackage P. 1 of 36

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

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### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nevada Certification #: MN\_00064  
Nebraska Certification #: Pace  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

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### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130206

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130206001	MW-28B-100112	Water	10/01/12 10:50	10/02/12 07:50
60130206002	MW-25B-100112	Water	10/01/12 13:10	10/02/12 07:50
60130206003	MW-38B-100112	Water	10/01/12 13:40	10/02/12 07:50
60130206004	MW-36A-100112	Water	10/01/12 12:45	10/02/12 07:50
60130206005	MW-36B-100112	Water	10/01/12 11:15	10/02/12 07:50
60130206006	MW-36B-100112-AD	Water	10/01/12 11:25	10/02/12 07:50
60130206007	TB-5	Water	10/01/12 00:00	10/02/12 07:50

## REPORT OF LABORATORY ANALYSIS

Page 3 of 34

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130206

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130206001	MW-28B-100112	RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60130206002	MW-25B-100112	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60130206003	MW-38B-100112	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60130206004	MW-36A-100112	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130206

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130206005	MW-36B-100112	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
60130206006	MW-36B-100112-AD	EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60130206007	TB-5	SM 4500-CO2 D	JML	1	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

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Page 5 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-28B-100112	Lab ID: 60130206001	Collected: 10/01/12 10:50	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	36.3	ug/L	6.2	1		10/05/12 15:25	74-84-0	
Ethene	ND	ug/L	6.2	1		10/05/12 15:25	74-85-1	
Methane	8270	ug/L	6.6	1		10/05/12 15:25	74-82-8	E
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	28000	ug/L	50.0	1	10/03/12 11:00	10/07/12 14:39	7439-89-6	
Manganese	505	ug/L	5.0	1	10/03/12 11:00	10/07/12 14:39	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		10/03/12 14:17	67-64-1	
Benzene	ND	ug/L	1.0	1		10/03/12 14:17	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		10/03/12 14:17	75-15-0	
Chlorobenzene	10.7	ug/L	1.0	1		10/03/12 14:17	108-90-7	
Chloroform	ND	ug/L	1.0	1		10/03/12 14:17	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/03/12 14:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/03/12 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/03/12 14:17	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/03/12 14:17	100-41-4	
Iodomethane	ND	ug/L	10.0	1		10/03/12 14:17	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		10/03/12 14:17	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		10/03/12 14:17	127-18-4	
Toluene	ND	ug/L	1.0	1		10/03/12 14:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/03/12 14:17	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		10/03/12 14:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/03/12 14:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/03/12 14:17	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101	%	80-120	1		10/03/12 14:17	460-00-4	
Dibromofluoromethane (S)	97	%	80-120	1		10/03/12 14:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		10/03/12 14:17	17060-07-0	
Toluene-d8 (S)	106	%	80-120	1		10/03/12 14:17	2037-26-5	
Preservation pH	1.0		0.10	1		10/03/12 14:17		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	1720	mg/L	120	1		10/03/12 11:35		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1610	mg/L	5.0	1		10/03/12 15:22		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/04/12 16:47	18496-25-8	

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Page 6 of 34



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-28B-100112	Lab ID: 60130206001	Collected: 10/01/12 10:50	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	135 mg/L		20.0	20		10/05/12 13:03	16887-00-6	
Sulfate	22.8 mg/L		2.0	2		10/05/12 18:21	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/02/12 15:06		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/02/12 15:06		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/02/12 15:06		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	18.4 mg/L		1.0	1		10/11/12 11:30	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	1860 mg/L		20.0	1		09/29/12 10:00	124-38-9	

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Page 7 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-25B-100112	Lab ID: 60130206002	Collected: 10/01/12 13:10	Received: 10/02/12 07:50	Matrix: Water
-----------------------	---------------------	---------------------------	--------------------------	---------------

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND	ug/L	6.2	1		10/05/12 15:35	74-84-0	
Ethene	ND	ug/L	6.2	1		10/05/12 15:35	74-85-1	
Methane	25.6	ug/L	6.6	1		10/05/12 15:35	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	21500	ug/L	50.0	1	10/03/12 11:00	10/07/12 14:43	7439-89-6	
Manganese	1620	ug/L	5.0	1	10/03/12 11:00	10/07/12 14:43	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		10/03/12 14:02	67-64-1	
Benzene	ND	ug/L	1.0	1		10/03/12 14:02	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		10/03/12 14:02	75-15-0	
Chlorobenzene	6.1	ug/L	1.0	1		10/03/12 14:02	108-90-7	
Chloroform	ND	ug/L	1.0	1		10/03/12 14:02	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/03/12 14:02	107-06-2	
cis-1,2-Dichloroethene	6.9	ug/L	1.0	1		10/03/12 14:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/03/12 14:02	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/03/12 14:02	100-41-4	
Iodomethane	ND	ug/L	10.0	1		10/03/12 14:02	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		10/03/12 14:02	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		10/03/12 14:02	127-18-4	
Toluene	ND	ug/L	1.0	1		10/03/12 14:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/03/12 14:02	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		10/03/12 14:02	79-01-6	
Vinyl chloride	7.0	ug/L	1.0	1		10/03/12 14:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/03/12 14:02	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102	%	80-120	1		10/03/12 14:02	460-00-4	
Dibromofluoromethane (S)	99	%	80-120	1		10/03/12 14:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		10/03/12 14:02	17060-07-0	
Toluene-d8 (S)	96	%	80-120	1		10/03/12 14:02	2037-26-5	
Preservation pH	1.0		0.10	1		10/03/12 14:02		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	647	mg/L	20.0	1		10/03/12 10:26		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1080	mg/L	5.0	1		10/03/12 15:22		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/04/12 16:48	18496-25-8	

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Page 8 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-25B-100112	Lab ID: 60130206002	Collected: 10/01/12 13:10	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	94.5 mg/L		20.0	20		10/05/12 13:18	16887-00-6	
Sulfate	193 mg/L		20.0	20		10/05/12 13:18	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/02/12 15:19		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/02/12 15:19		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/02/12 15:19		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	5.7 mg/L		1.0	1		10/11/12 11:45	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	698 mg/L		20.0	1		09/29/12 10:00	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 9 of 34

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-38B-100112	Lab ID: 60130206003	Collected: 10/01/12 13:40	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/05/12 15:46	74-84-0	
Ethene	21.3 ug/L		6.2	1		10/05/12 15:46	74-85-1	
Methane	63.5 ug/L		6.6	1		10/05/12 15:46	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	636 ug/L		50.0	1	10/03/12 11:00	10/07/12 14:46	7439-89-6	
Manganese	664 ug/L		5.0	1	10/03/12 11:00	10/07/12 14:46	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/05/12 13:17	67-64-1	
Benzene	1.1 ug/L		1.0	1		10/05/12 13:17	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/05/12 13:17	75-15-0	
Chlorobenzene	192 ug/L		1.0	1		10/05/12 13:17	108-90-7	
Chloroform	8.6 ug/L		1.0	1		10/05/12 13:17	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/05/12 13:17	107-06-2	
cis-1,2-Dichloroethene	17.8 ug/L		1.0	1		10/05/12 13:17	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/05/12 13:17	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/05/12 13:17	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/05/12 13:17	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/05/12 13:17	75-09-2	
Tetrachloroethene	14.2 ug/L		1.0	1		10/05/12 13:17	127-18-4	
Toluene	ND ug/L		1.0	1		10/05/12 13:17	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/05/12 13:17	71-55-6	
Trichloroethene	1.2 ug/L		1.0	1		10/05/12 13:17	79-01-6	
Vinyl chloride	36.4 ug/L		1.0	1		10/05/12 13:17	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/05/12 13:17	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/05/12 13:17	460-00-4	
Dibromofluoromethane (S)	93 %		80-120	1		10/05/12 13:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	92 %		80-120	1		10/05/12 13:17	17060-07-0	
Toluene-d8 (S)	101 %		80-120	1		10/05/12 13:17	2037-26-5	
Preservation pH	1.0		0.10	1		10/05/12 13:17		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	219 mg/L		20.0	1		10/03/12 10:31		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	835 mg/L		5.0	1		10/03/12 15:23		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.96 mg/L		0.050	1		10/04/12 16:48	18496-25-8	

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Page 10 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-38B-100112	Lab ID: 60130206003	Collected: 10/01/12 13:40	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	235 mg/L		20.0	20		10/05/12 13:34	16887-00-6	
Sulfate	127 mg/L		20.0	20		10/05/12 13:34	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/02/12 15:19		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/02/12 15:19		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/02/12 15:19		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.0 mg/L		1.0	1		10/11/12 12:27	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	211 mg/L		20.0	1		09/29/12 10:00	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 11 of 34

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-36A-100112	Lab ID: 60130206004	Collected: 10/01/12 12:45	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/05/12 15:57	74-84-0	
Ethene	ND ug/L		6.2	1		10/05/12 15:57	74-85-1	
Methane	765 ug/L		6.6	1		10/05/12 15:57	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	22700 ug/L		50.0	1	10/03/12 11:00	10/07/12 14:50	7439-89-6	
Manganese	7430 ug/L		5.0	1	10/03/12 11:00	10/07/12 14:50	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/03/12 15:19	67-64-1	
Benzene	61.0 ug/L		1.0	1		10/03/12 15:19	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/03/12 15:19	75-15-0	
Chlorobenzene	343 ug/L		5.0	5		10/03/12 15:35	108-90-7	
Chloroform	ND ug/L		1.0	1		10/03/12 15:19	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/03/12 15:19	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/03/12 15:19	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/03/12 15:19	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/03/12 15:19	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/03/12 15:19	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/03/12 15:19	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/03/12 15:19	127-18-4	
Toluene	ND ug/L		1.0	1		10/03/12 15:19	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/03/12 15:19	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/03/12 15:19	79-01-6	
Vinyl chloride	2.8 ug/L		1.0	1		10/03/12 15:19	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/03/12 15:19	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		10/03/12 15:19	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	1		10/03/12 15:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		80-120	1		10/03/12 15:19	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		10/03/12 15:19	2037-26-5	
Preservation pH	1.0		0.10	1		10/03/12 15:19		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	444 mg/L		20.0	1		10/03/12 10:37		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1630 mg/L		5.0	1		10/03/12 15:23		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/04/12 16:48	18496-25-8	

Date: 10/25/2012 03:58 PM

## REPORT OF LABORATORY ANALYSIS

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Page 12 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-36A-100112	Lab ID: 60130206004	Collected: 10/01/12 12:45	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	484 mg/L		50.0	50		10/05/12 18:37	16887-00-6	
Sulfate	151 mg/L		20.0	20		10/05/12 13:50	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/02/12 15:16		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/02/12 15:16		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/02/12 15:16		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	7.1 mg/L		1.0	1		10/11/12 12:41	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	531 mg/L		20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

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Sample: MW-36B-100112      Lab ID: 60130206005      Collected: 10/01/12 11:15      Received: 10/02/12 07:50      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	77.3	ug/L	6.2	1		10/05/12 14:53	74-84-0	
Ethene	353	ug/L	6.2	1		10/05/12 14:53	74-85-1	
Methane	4910	ug/L	6.6	1		10/05/12 14:53	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	14000	ug/L	50.0	1	10/03/12 11:00	10/07/12 14:53	7439-89-6	
Manganese	3240	ug/L	5.0	1	10/03/12 11:00	10/07/12 14:53	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	50.0	5		10/03/12 15:51	67-64-1	
Benzene	258	ug/L	5.0	5		10/03/12 15:51	71-43-2	
Carbon disulfide	ND	ug/L	25.0	5		10/03/12 15:51	75-15-0	
Chlorobenzene	3210	ug/L	25.0	25		10/03/12 16:06	108-90-7	M1
Chloroform	ND	ug/L	5.0	5		10/03/12 15:51	67-66-3	
1,2-Dichloroethane	118	ug/L	5.0	5		10/03/12 15:51	107-06-2	
cis-1,2-Dichloroethene	99.5	ug/L	5.0	5		10/03/12 15:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/03/12 15:51	156-60-5	
Ethylbenzene	ND	ug/L	5.0	5		10/03/12 15:51	100-41-4	
Iodomethane	ND	ug/L	50.0	5		10/03/12 15:51	74-88-4	
Methylene chloride	ND	ug/L	5.0	5		10/03/12 15:51	75-09-2	
Tetrachloroethene	ND	ug/L	5.0	5		10/03/12 15:51	127-18-4	
Toluene	ND	ug/L	5.0	5		10/03/12 15:51	108-88-3	
1,1,1-Trichloroethane	9.5	ug/L	5.0	5		10/03/12 15:51	71-55-6	
Trichloroethene	20.1	ug/L	5.0	5		10/03/12 15:51	79-01-6	
Vinyl chloride	876	ug/L	5.0	5		10/03/12 15:51	75-01-4	
Xylene (Total)	ND	ug/L	15.0	5		10/03/12 15:51	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101	%	80-120	5		10/03/12 15:51	460-00-4	
Dibromofluoromethane (S)	99	%	80-120	5		10/03/12 15:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	80-120	5		10/03/12 15:51	17060-07-0	
Toluene-d8 (S)	95	%	80-120	5		10/03/12 15:51	2037-26-5	
Preservation pH	1.0		0.10	5		10/03/12 15:51		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	499	mg/L	20.0	1		10/03/12 10:48		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1500	mg/L	5.0	1		10/03/12 15:23		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8	Std. Units	0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/04/12 16:48	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 14 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-36B-100112	Lab ID: 60130206005	Collected: 10/01/12 11:15	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	403 mg/L		50.0	50		10/05/12 18:52	16887-00-6	
Sulfate	193 mg/L		20.0	20		10/05/12 14:37	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/02/12 15:08		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/02/12 15:08		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/02/12 15:08		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	28.6 mg/L		1.0	1		10/11/12 12:55	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	597 mg/L		20.0	1		09/29/12 10:00	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-36B-100112-AD	Lab ID: 60130206006	Collected: 10/01/12 11:25	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	69.6	ug/L	6.2	1		10/05/12 16:07	74-84-0	
Ethene	324	ug/L	6.2	1		10/05/12 16:07	74-85-1	
Methane	4280	ug/L	6.6	1		10/05/12 16:07	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	14100	ug/L	50.0	1	10/03/12 11:00	10/07/12 14:56	7439-89-6	
Manganese	3250	ug/L	5.0	1	10/03/12 11:00	10/07/12 14:56	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	50.0	5		10/03/12 16:53	67-64-1	
Benzene	285	ug/L	5.0	5		10/03/12 16:53	71-43-2	
Carbon disulfide	ND	ug/L	25.0	5		10/03/12 16:53	75-15-0	
Chlorobenzene	3550	ug/L	25.0	25		10/03/12 17:08	108-90-7	
Chloroform	ND	ug/L	5.0	5		10/03/12 16:53	67-66-3	
1,2-Dichloroethane	161	ug/L	5.0	5		10/03/12 16:53	107-06-2	
cis-1,2-Dichloroethene	107	ug/L	5.0	5		10/03/12 16:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/03/12 16:53	156-60-5	
Ethylbenzene	ND	ug/L	5.0	5		10/03/12 16:53	100-41-4	
Iodomethane	ND	ug/L	50.0	5		10/03/12 16:53	74-88-4	
Methylene chloride	ND	ug/L	5.0	5		10/03/12 16:53	75-09-2	
Tetrachloroethene	ND	ug/L	5.0	5		10/03/12 16:53	127-18-4	
Toluene	6.4	ug/L	5.0	5		10/03/12 16:53	108-88-3	
1,1,1-Trichloroethane	9.4	ug/L	5.0	5		10/03/12 16:53	71-55-6	
Trichloroethene	23.7	ug/L	5.0	5		10/03/12 16:53	79-01-6	
Vinyl chloride	878	ug/L	5.0	5		10/03/12 16:53	75-01-4	
Xylene (Total)	ND	ug/L	15.0	5		10/03/12 16:53	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103	%	80-120	5		10/03/12 16:53	460-00-4	
Dibromofluoromethane (S)	97	%	80-120	5		10/03/12 16:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	80-120	5		10/03/12 16:53	17060-07-0	
Toluene-d8 (S)	101	%	80-120	5		10/03/12 16:53	2037-26-5	
Preservation pH	1.0		0.10	5		10/03/12 16:53		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	496	mg/L	20.0	1		10/03/12 11:00		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1490	mg/L	5.0	1		10/03/12 15:24		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8	Std. Units	0.10	1		10/02/12 17:37		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/04/12 16:49	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 16 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: MW-36B-100112-AD	Lab ID: 60130206006	Collected: 10/01/12 11:25	Received: 10/02/12 07:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	397	mg/L	50.0	50		10/05/12 19:39	16887-00-6	
Sulfate	192	mg/L	20.0	20		10/05/12 15:24	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/02/12 15:10		
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/02/12 15:10		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/02/12 15:10		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	14.4	mg/L	1.0	1		10/11/12 13:23	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	593	mg/L	20.0	1		09/29/12 10:00	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 17 of 34

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Sample: TB-5      Lab ID: 60130206007      Collected: 10/01/12 00:00      Received: 10/02/12 07:50      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>								
	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/03/12 13:46	67-64-1	
Benzene	ND ug/L		1.0	1		10/03/12 13:46	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/03/12 13:46	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/03/12 13:46	108-90-7	
Chloroform	ND ug/L		1.0	1		10/03/12 13:46	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/03/12 13:46	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/03/12 13:46	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/03/12 13:46	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/03/12 13:46	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/03/12 13:46	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/03/12 13:46	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/03/12 13:46	127-18-4	
Toluene	ND ug/L		1.0	1		10/03/12 13:46	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/03/12 13:46	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/03/12 13:46	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/03/12 13:46	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/03/12 13:46	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/03/12 13:46	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		10/03/12 13:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-120	1		10/03/12 13:46	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/03/12 13:46	2037-26-5	
Preservation pH	1.0		0.10	1		10/03/12 13:46		

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: AIR/15889 Analysis Method: RSK 175

QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1303054 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/05/12 10:21	
Ethene	ug/L	ND	6.2	10/05/12 10:21	
Methane	ug/L	ND	6.6	10/05/12 10:21	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1303055 1303056

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	105	104	92	91	70-130	1	30	
Ethene	ug/L	106	98.2	97.2	93	92	70-130	1	30	
Methane	ug/L	60.7	57.2	56.1	94	93	70-130	2	30	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1304409 1304410

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Ethane	ug/L	77.3	108	108	108	172	175	87	90	30-150	2	30
Ethene	ug/L	353	101	101	417	420	64	67	30-150	.8	30	
Methane	ug/L	4910	57.8	57.8	4350	4620	-963	-495	30-150	6	30	1e,2e, M0

SAMPLE DUPLICATE: 1304408

Parameter	Units	92133388001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	4.6J		30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: MPRP/19765 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1072047 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/07/12 14:33	
Manganese	ug/L	ND	5.0	10/07/12 14:33	

LABORATORY CONTROL SAMPLE: 1072048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9230	92	80-120	
Manganese	ug/L	1000	932	93	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1072049 1072050

Parameter	Units	60130206005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Iron	ug/L	14000	10000	10000	23300	23400	92	94	75-125	1	20	
Manganese	ug/L	3240	1000	1000	4190	4180	95	94	75-125	0	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: MSV/48961 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130206001, 60130206002, 60130206004, 60130206005, 60130206006, 60130206007

METHOD BLANK: 1072271 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206004, 60130206005, 60130206006, 60130206007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/03/12 13:30	
1,2-Dichloroethane	ug/L	ND	1.0	10/03/12 13:30	
Acetone	ug/L	ND	10.0	10/03/12 13:30	
Benzene	ug/L	ND	1.0	10/03/12 13:30	
Carbon disulfide	ug/L	ND	5.0	10/03/12 13:30	
Chlorobenzene	ug/L	ND	1.0	10/03/12 13:30	
Chloroform	ug/L	ND	1.0	10/03/12 13:30	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/03/12 13:30	
Ethylbenzene	ug/L	ND	1.0	10/03/12 13:30	
Iodomethane	ug/L	ND	10.0	10/03/12 13:30	
Methylene chloride	ug/L	ND	1.0	10/03/12 13:30	
Tetrachloroethene	ug/L	ND	1.0	10/03/12 13:30	
Toluene	ug/L	ND	1.0	10/03/12 13:30	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/03/12 13:30	
Trichloroethene	ug/L	ND	1.0	10/03/12 13:30	
Vinyl chloride	ug/L	ND	1.0	10/03/12 13:30	
Xylene (Total)	ug/L	ND	3.0	10/03/12 13:30	
1,2-Dichloroethane-d4 (S)	%	94	80-120	10/03/12 13:30	
4-Bromofluorobenzene (S)	%	102	80-120	10/03/12 13:30	
Dibromofluoromethane (S)	%	97	80-120	10/03/12 13:30	
Toluene-d8 (S)	%	95	80-120	10/03/12 13:30	

LABORATORY CONTROL SAMPLE: 1072272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.3	97	76-120	
1,2-Dichloroethane	ug/L	20	18.2	91	72-123	
Acetone	ug/L	100	108	108	40-160	
Benzene	ug/L	20	18.6	93	74-123	
Carbon disulfide	ug/L	20	17.7	89	67-135	
Chlorobenzene	ug/L	20	18.5	93	80-120	
Chloroform	ug/L	20	19.4	97	77-120	
cis-1,2-Dichloroethene	ug/L	20	19.0	95	70-120	
Ethylbenzene	ug/L	20	19.5	98	76-123	
Iodomethane	ug/L	20	18.9	94	40-160	
Methylene chloride	ug/L	20	19.1	95	72-127	
Tetrachloroethene	ug/L	20	17.4	87	78-121	
Toluene	ug/L	20	17.6	88	75-123	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	80-129	
Trichloroethene	ug/L	20	18.9	95	74-120	
Vinyl chloride	ug/L	20	20.0	100	50-140	

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**REPORT OF LABORATORY ANALYSIS**

Page 21 of 34

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

LABORATORY CONTROL SAMPLE: 1072272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	55.1	92	76-123	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Dibromofluoromethane (S)	%			105	80-120	
Toluene-d8 (S)	%			91	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1072273 1072274

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	RPD	Max Qual
		60130206005	Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	MSD % Rec				
1,1,1-Trichloroethane	ug/L	9.5	500	500	491	479	96	94	62-146	3	32		
1,2-Dichloroethane	ug/L	118	500	500	602	579	97	92	52-146	4	35		
Acetone	ug/L	ND	2500	2500	2300	2480	92	99	40-151	8	35		
Benzene	ug/L	258	500	500	756	714	100	91	40-155	6	45		
Carbon disulfide	ug/L	ND	500	500	426	415	85	83	55-153	3	32		
Chlorobenzene	ug/L	3210	500	500	4000	3820	157	122	54-141	5	31 M1		
Chloroform	ug/L	ND	500	500	509	496	102	99	59-138	3	29		
cis-1,2-Dichloroethene	ug/L	99.5	500	500	579	579	96	96	46-144	0	34		
Ethylbenzene	ug/L	ND	500	500	472	475	94	95	40-158	1	48		
Iodomethane	ug/L	ND	500	500	418	402	84	80	40-132	4	44		
Methylene chloride	ug/L	ND	500	500	471	474	94	95	60-137	1	28		
Tetrachloroethene	ug/L	ND	500	500	468	471	93	94	54-152	1	35		
Toluene	ug/L	ND	500	500	486	486	96	96	42-151	0	46		
trans-1,2-Dichloroethene	ug/L	ND	500	500	455	470	90	93	66-152	3	30		
Trichloroethene	ug/L	20.1	500	500	475	473	91	91	51-146	0	34		
Vinyl chloride	ug/L	876	500	500	1380	1280	101	80	40-160	8	30		
Xylene (Total)	ug/L	ND	1500	1500	1450	1470	97	98	40-151	1	45		
1,2-Dichloroethane-d4 (S)	%						97	100	80-120				
4-Bromofluorobenzene (S)	%						106	103	80-120				
Dibromofluoromethane (S)	%						103	102	80-120				
Toluene-d8 (S)	%						92	105	80-120				
Preservation pH		1.0			1.0	1.0				0			



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: MSV/49021

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130206003

METHOD BLANK: 1074066

Matrix: Water

Associated Lab Samples: 60130206003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/05/12 13:01	
1,2-Dichloroethane	ug/L	ND	1.0	10/05/12 13:01	
Acetone	ug/L	ND	10.0	10/05/12 13:01	
Benzene	ug/L	ND	1.0	10/05/12 13:01	
Carbon disulfide	ug/L	ND	5.0	10/05/12 13:01	
Chlorobenzene	ug/L	ND	1.0	10/05/12 13:01	
Chloroform	ug/L	ND	1.0	10/05/12 13:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Ethylbenzene	ug/L	ND	1.0	10/05/12 13:01	
Iodomethane	ug/L	ND	10.0	10/05/12 13:01	
Methylene chloride	ug/L	ND	1.0	10/05/12 13:01	
Tetrachloroethene	ug/L	ND	1.0	10/05/12 13:01	
Toluene	ug/L	ND	1.0	10/05/12 13:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Trichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Vinyl chloride	ug/L	ND	1.0	10/05/12 13:01	
Xylene (Total)	ug/L	ND	3.0	10/05/12 13:01	
1,2-Dichloroethane-d4 (S)	%	100	80-120	10/05/12 13:01	
4-Bromofluorobenzene (S)	%	106	80-120	10/05/12 13:01	
Dibromofluoromethane (S)	%	103	80-120	10/05/12 13:01	
Toluene-d8 (S)	%	102	80-120	10/05/12 13:01	

LABORATORY CONTROL SAMPLE: 1074067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	76-120	
1,2-Dichloroethane	ug/L	20	19.7	98	72-123	
Acetone	ug/L	100	98.9	99	40-160	
Benzene	ug/L	20	19.8	99	74-123	
Carbon disulfide	ug/L	20	17.3	87	67-135	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroform	ug/L	20	18.6	93	77-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	103	70-120	
Ethylbenzene	ug/L	20	18.0	90	76-123	
Iodomethane	ug/L	20	19.9	100	40-160	
Methylene chloride	ug/L	20	21.1	105	72-127	
Tetrachloroethene	ug/L	20	17.0	85	78-121	
Toluene	ug/L	20	18.2	91	75-123	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	80-129	
Trichloroethene	ug/L	20	19.5	97	74-120	
Vinyl chloride	ug/L	20	19.3	97	50-140	

Date: 10/25/2012 03:58 PM

## REPORT OF LABORATORY ANALYSIS

Page 23 of 34

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

LABORATORY CONTROL SAMPLE: 1074067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	53.0	88	76-123	
1,2-Dichloroethane-d4 (S)	%			118	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			115	80-120	
Toluene-d8 (S)	%			103	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WET/37472 Analysis Method: SM 2320B

QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1071915 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	10/03/12 09:11	

LABORATORY CONTROL SAMPLE: 1071916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	489	98	90-110	

SAMPLE DUPLICATE: 1071917

Parameter	Units	60130225001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	92.6	92.2	0	9	

SAMPLE DUPLICATE: 1071918

Parameter	Units	60130206005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	499	502	1	9	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WET/37483 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1072315 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

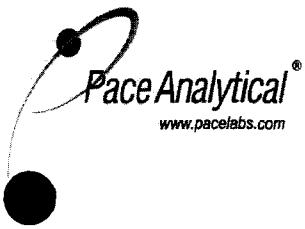
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/03/12 15:21	

SAMPLE DUPLICATE: 1072316

Parameter	Units	60130206001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1610	1600	1	17	

SAMPLE DUPLICATE: 1072317

Parameter	Units	60130282003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	837	831	1	17	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WET/37469 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

SAMPLE DUPLICATE: 1071830

Parameter	Units	60130206005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	1	5	H6

Date: 10/25/2012 03:58 PM

## REPORT OF LABORATORY ANALYSIS

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Page 27 of 34

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WET/37496 Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1073072 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/04/12 16:33	

LABORATORY CONTROL SAMPLE: 1073073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.52	105	80-120	

MATRIX SPIKE SAMPLE: 1073075

Parameter	Units	60129973008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.22	42	75-125	M1

MATRIX SPIKE SAMPLE: 1073076

Parameter	Units	60130206005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.39	75	75-125	

SAMPLE DUPLICATE: 1073074

Parameter	Units	60129966002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	2.7	2.7	0	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WETA/21914 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1073841 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/05/12 12:31	
Sulfate	mg/L	ND	1.0	10/05/12 12:31	

LABORATORY CONTROL SAMPLE: 1073842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	91	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1073843 1073844

Parameter	Units	60130206005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Chloride	mg/L	403	250	250	673	647	108	98	64-118	4	12	
Sulfate	mg/L	193	100	100	292	286	99	93	61-119	2	10	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

QC Batch: WETA/21869 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.  
Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1071642 Matrix: Water

Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/02/12 14:59	
Nitrogen, Nitrite	mg/L	ND	0.10	10/02/12 14:59	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/02/12 14:59	

LABORATORY CONTROL SAMPLE: 1071643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.43	107	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1071644

Parameter	Units	60130206005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	104	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.39	93	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1071646

Parameter	Units	60130193001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.42	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	107	90-110	

SAMPLE DUPLICATE: 1071645

Parameter	Units	60130206006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	
Nitrogen, Nitrite	mg/L	ND	.033J		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	

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## REPORT OF LABORATORY ANALYSIS

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Page 30 of 34

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130206

QC Batch: WETA/21992 Analysis Method: SM 5310C  
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon  
Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

METHOD BLANK: 1077160 Matrix: Water  
Associated Lab Samples: 60130206001, 60130206002, 60130206003, 60130206004, 60130206005, 60130206006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/11/12 07:30	

LABORATORY CONTROL SAMPLE: 1077161

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.8	97	80-120	

MATRIX SPIKE SAMPLE: 1077162

Parameter	Units	60129866006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	34.3	2.5	37.6	132	80-120	M1

SAMPLE DUPLICATE: 1077163

Parameter	Units	60130206005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	28.6	31.9	11	25	

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/49021

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1e Sample is 75.34 times spike amount.

2e Sample is 80.02 times spike amount.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130206001	MW-28B-100112	RSK 175	AIR/15889		
60130206002	MW-25B-100112	RSK 175	AIR/15889		
60130206003	MW-38B-100112	RSK 175	AIR/15889		
60130206004	MW-36A-100112	RSK 175	AIR/15889		
60130206005	MW-36B-100112	RSK 175	AIR/15889		
60130206006	MW-36B-100112-AD	RSK 175	AIR/15889		
60130206001	MW-28B-100112	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206002	MW-25B-100112	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206003	MW-38B-100112	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206004	MW-36A-100112	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206005	MW-36B-100112	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206006	MW-36B-100112-AD	EPA 3010	MPRP/19765	EPA 6010	ICP/16284
60130206001	MW-28B-100112	EPA 5030B/8260	MSV/48961		
60130206002	MW-25B-100112	EPA 5030B/8260	MSV/48961		
60130206003	MW-38B-100112	EPA 5030B/8260	MSV/49021		
60130206004	MW-36A-100112	EPA 5030B/8260	MSV/48961		
60130206005	MW-36B-100112	EPA 5030B/8260	MSV/48961		
60130206006	MW-36B-100112-AD	EPA 5030B/8260	MSV/48961		
60130206007	TB-5	EPA 5030B/8260	MSV/48961		
60130206001	MW-28B-100112	SM 2320B	WET/37472		
60130206002	MW-25B-100112	SM 2320B	WET/37472		
60130206003	MW-38B-100112	SM 2320B	WET/37472		
60130206004	MW-36A-100112	SM 2320B	WET/37472		
60130206005	MW-36B-100112	SM 2320B	WET/37472		
60130206006	MW-36B-100112-AD	SM 2320B	WET/37472		
60130206001	MW-28B-100112	SM 2540C	WET/37483		
60130206002	MW-25B-100112	SM 2540C	WET/37483		
60130206003	MW-38B-100112	SM 2540C	WET/37483		
60130206004	MW-36A-100112	SM 2540C	WET/37483		
60130206005	MW-36B-100112	SM 2540C	WET/37483		
60130206006	MW-36B-100112-AD	SM 2540C	WET/37483		
60130206001	MW-28B-100112	SM 4500-H+B	WET/37469		
60130206002	MW-25B-100112	SM 4500-H+B	WET/37469		
60130206003	MW-38B-100112	SM 4500-H+B	WET/37469		
60130206004	MW-36A-100112	SM 4500-H+B	WET/37469		
60130206005	MW-36B-100112	SM 4500-H+B	WET/37469		
60130206006	MW-36B-100112-AD	SM 4500-H+B	WET/37469		
60130206001	MW-28B-100112	SM 4500-S-2 D	WET/37496		
60130206002	MW-25B-100112	SM 4500-S-2 D	WET/37496		
60130206003	MW-38B-100112	SM 4500-S-2 D	WET/37496		
60130206004	MW-36A-100112	SM 4500-S-2 D	WET/37496		
60130206005	MW-36B-100112	SM 4500-S-2 D	WET/37496		
60130206006	MW-36B-100112-AD	SM 4500-S-2 D	WET/37496		
60130206001	MW-28B-100112	EPA 300.0	WETA/21914		

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**REPORT OF LABORATORY ANALYSIS**

Page 33 of 34

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130206002	MW-25B-100112	EPA 300.0		WETA/21914	
60130206003	MW-38B-100112	EPA 300.0		WETA/21914	
60130206004	MW-36A-100112	EPA 300.0		WETA/21914	
60130206005	MW-36B-100112	EPA 300.0		WETA/21914	
60130206006	MW-36B-100112-AD	EPA 300.0		WETA/21914	
60130206001	MW-28B-100112	EPA 353.2		WETA/21869	
60130206002	MW-25B-100112	EPA 353.2		WETA/21869	
60130206003	MW-38B-100112	EPA 353.2		WETA/21869	
60130206004	MW-36A-100112	EPA 353.2		WETA/21869	
60130206005	MW-36B-100112	EPA 353.2		WETA/21869	
60130206006	MW-36B-100112-AD	EPA 353.2		WETA/21869	
60130206001	MW-28B-100112	SM 5310C		WETA/21992	
60130206002	MW-25B-100112	SM 5310C		WETA/21992	
60130206003	MW-38B-100112	SM 5310C		WETA/21992	
60130206004	MW-36A-100112	SM 5310C		WETA/21992	
60130206005	MW-36B-100112	SM 5310C		WETA/21992	
60130206006	MW-36B-100112-AD	SM 5310C		WETA/21992	
60130206001	MW-28B-100112	SM 4500-CO2 D		WETA/22019	
60130206002	MW-25B-100112	SM 4500-CO2 D		WETA/22019	
60130206003	MW-38B-100112	SM 4500-CO2 D		WETA/22019	
60130206004	MW-36A-100112	SM 4500-CO2 D		WETA/22019	
60130206005	MW-36B-100112	SM 4500-CO2 D		WETA/22019	
60130206006	MW-36B-100112-AD	SM 4500-CO2 D		WETA/22019	



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information

Company: Environmental Operations

Address: 1530 S. Second St. Ste. 200

St. Louis, MO 63104

Email To: larry@environmentalops.com

Phone: 314-241-0900 Fax: 314-436-2900

 Requested Due Date/TAT: **NTAFT**
**Section B**

Required Project Information

Report To: Larry Rosen

Copy To:

Purchase Order No:

Project Name: Solutia Groundwater

 Project Number: **8950**
**Section C**

Invoice Information

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager: Jamie Slade

Pace Profile #:

 Page: **1** of **1**
**REGULATORY AGENCY**
 NPDES    GROUND WATER    DRINKING WATER  
 UST    RCRA    OTHER    POTW

Site Location:

MO

STATE:

ITEM #	SAMPLE ID (A-Z, 0-9, -, ) Sample IDs MUST BE UNIQUE	COLLECTED												Requested Analysis Filtered (Y/N)																	
		MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START				COMPOSITE END/GRAB				# OF CONTAINERS	Preservatives				Analysis Test↓	Y/N↓	N N N N N N N N N N N N N N N N	B260 VOCs	6010 Fe, Mn	Sulfide	TOC	Alkalinity	TDS	Carbon Dioxide	Sulfate/Chloride	Nitrate	Methane/Ethane/Ethene	8141 Alachlor	Residual Chlorine (Y/N)
				DATE	TIME	DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH		Na <sub>2</sub> SO <sub>4</sub>	Methanol	Other																
1	MW-28B-100112-16P24	WT G	1A635	3VG5U	1050	104	9	1	13	1	13	1	31	31G-H		X	X	X	X	X	X	X	X	X	X	X	16-331BP3N <sup>1*</sup>	an			
2	MW-25B-100112	WT G			1310	1010	9	4	13	1	13	1	1															an			
3	MW-38B-100112	WT G			1340	1010																						an3			
4	MW-36A-100112	WT G			1245	1010																						an4			
5	MW-3GB-100112	WT G			1115	1010																						an5			
6	MW-3GB-100112-AD	WT G			1125	1010																						an6			
7	MW-3GB-100112-AD 16P24	WT G	2A635	LVG1GA	1135	1010	18	8	6	10	6	10	6	10G-H		X	X	X	X	X	X	X	X	X	X	X	16-321BP3N <sup>2*</sup>	15/MD 16P3N <sup>1.5</sup> -			
8	TB-5	WT G			LAB	LAB	2	2	2	2	2	2	2	20G-H		X													CUT		
9		WT G																													
10		WT G																													
11		WT G																													
12		WT G																													

## ADDITIONAL COMMENTS

## RELINQUISHED BY / AFFILIATION

DATE

TIME

## ACCEPTED BY / AFFILIATION

DATE

TIME

## SAMPLE CONDITIONS

 10/01/12 1500 *Frank Akers*

10-2-12 0750

1.0 Y Y Y

4.7 Y Y Y

## SAMPLER NAME AND SIGNATURE

 PRINT Name of SAMPLER: *Daren Bouchard*

 SIGNATURE of SAMPLER: *Daren Bouchard*

 DATE Signed  
(MM/DD/YY): *10/01/12*

 Temp in °C  
Received on  
ice (Y/N)  
Custody Sealed  
Cooler (Y/N)  
Samples intact  
(Y/N)

## Sample Condition Upon Receipt



Client Name: Env Ops. Project # 16130206

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other *VIA*

Tracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  No

Custody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  No

Optional	
Proj. Due Date:	<i>10/9</i>
Proj. Name:	

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other *ZPLC*

Thermometer Used: *T-191 / T-194* Type of Ice: *Wet* Blue None  Samples on ice, cooling process has begun

Cooler Temperature: *1.47*

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: *10-2-12 AM*

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <i>NOS</i>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC: -Includes date/time/ID/analyses Matrix: <i>WT</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: <i>VOA</i> coliform, <i>TOC</i> , O&G, WI-DRO (water). Phenolics	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased) <i>011612-3</i>		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <i>IN</i>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: *Jeanne Shaeffer* Date: 10/2/12

Date: \_\_\_\_\_

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

October 15, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130282

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jamie Church'.

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 33

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

---

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nebraska Certification #: Pace  
 Nevada Certification #: MN\_00064  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130282001	MW-38A-100212	Water	10/02/12 14:30	10/03/12 07:30
60130282002	MW-15-100212	Water	10/02/12 13:40	10/03/12 07:30
60130282003	MW-32B-100212	Water	10/02/12 13:30	10/03/12 07:30
60130282004	MW-33B-100212	Water	10/02/12 10:30	10/03/12 07:30
60130282005	MW-34B-100212	Water	10/02/12 09:30	10/03/12 07:30

## REPORT OF LABORATORY ANALYSIS

Page 3 of 33

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130282001	<b>MW-38A-100212</b>	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60130282002	<b>MW-15-100212</b>	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60130282003	<b>MW-32B-100212</b>	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60130282004	<b>MW-33B-100212</b>	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130282

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130282005	MW-34B-100212	SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K

## REPORT OF LABORATORY ANALYSIS

Page 5 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-38A-100212	Lab ID: 60130282001	Collected: 10/02/12 14:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	67.0	ug/L	6.2	1		10/08/12 12:52	74-84-0	
Ethene	3470	ug/L	6.2	1		10/08/12 12:52	74-85-1	
Methane	943	ug/L	6.6	1		10/08/12 12:52	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	51900	ug/L	50.0	1	10/03/12 18:00	10/08/12 09:48	7439-89-6	
Manganese	6160	ug/L	5.0	1	10/03/12 18:00	10/08/12 09:48	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	5000	500		10/05/12 15:05	67-64-1	
Benzene	ND	ug/L	500	500		10/05/12 15:05	71-43-2	
Carbon disulfide	ND	ug/L	2500	500		10/05/12 15:05	75-15-0	
Chlorobenzene	1250	ug/L	500	500		10/05/12 15:05	108-90-7	
Chloroform	ND	ug/L	500	500		10/05/12 15:05	67-66-3	
1,2-Dichloroethane	ND	ug/L	500	500		10/05/12 15:05	107-06-2	
cis-1,2-Dichloroethene	151000	ug/L	2000	2000		10/05/12 15:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500	500		10/05/12 15:05	156-60-5	
Ethylbenzene	532	ug/L	500	500		10/05/12 15:05	100-41-4	
Iodomethane	ND	ug/L	5000	500		10/05/12 15:05	74-88-4	
Methylene chloride	ND	ug/L	500	500		10/05/12 15:05	75-09-2	
Tetrachloroethene	ND	ug/L	500	500		10/05/12 15:05	127-18-4	
Toluene	ND	ug/L	500	500		10/05/12 15:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	500	500		10/05/12 15:05	71-55-6	
Trichloroethene	ND	ug/L	500	500		10/05/12 15:05	79-01-6	
Vinyl chloride	24900	ug/L	500	500		10/05/12 15:05	75-01-4	
Xylene (Total)	1770	ug/L	1500	500		10/05/12 15:05	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	106	%	80-120	500		10/05/12 15:05	460-00-4	
Dibromofluoromethane (S)	102	%	80-120	500		10/05/12 15:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	80-120	500		10/05/12 15:05	17060-07-0	
Toluene-d8 (S)	108	%	80-120	500		10/05/12 15:05	2037-26-5	
Preservation pH	1.0		0.10	500		10/05/12 15:05		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	362	mg/L	20.0	1		10/04/12 09:19		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1600	mg/L	5.0	1		10/03/12 15:24		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9	Std. Units	0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.14	mg/L	0.050	1		10/09/12 15:09	18496-25-8	M1

Date: 10/15/2012 05:45 PM

### REPORT OF LABORATORY ANALYSIS

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Page 6 of 33



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-38A-100212	Lab ID: 60130282001	Collected: 10/02/12 14:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	490 mg/L		50.0	50		10/10/12 05:34	16887-00-6	
Sulfate	36.9 mg/L		10.0	10		10/09/12 01:07	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/03/12 16:43		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/03/12 16:43		M1
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/03/12 16:43		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	21.6 mg/L		1.0	1		10/12/12 09:00	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	409 mg/L		20.0	1		10/12/12 16:10	124-38-9	

Date: 10/15/2012 05:45 PM

## REPORT OF LABORATORY ANALYSIS

Page 7 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-15-100212	Lab ID: 60130282002	Collected: 10/02/12 13:40	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/08/12 13:03	74-84-0	
Ethene	ND ug/L		6.2	1		10/08/12 13:03	74-85-1	
Methane	66.3 ug/L		6.6	1		10/08/12 13:03	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	5500 ug/L		50.0	1	10/03/12 18:00	10/08/12 09:51	7439-89-6	
Manganese	6480 ug/L		5.0	1	10/03/12 18:00	10/08/12 09:51	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/05/12 15:36	67-64-1	
Benzene	ND ug/L		1.0	1		10/05/12 15:36	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/05/12 15:36	75-15-0	
Chlorobenzene	15.2 ug/L		1.0	1		10/05/12 15:36	108-90-7	
Chloroform	ND ug/L		1.0	1		10/05/12 15:36	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/05/12 15:36	107-06-2	
cis-1,2-Dichloroethene	7.1 ug/L		1.0	1		10/05/12 15:36	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/05/12 15:36	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/05/12 15:36	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/05/12 15:36	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/05/12 15:36	75-09-2	
Tetrachloroethene	1.1 ug/L		1.0	1		10/05/12 15:36	127-18-4	
Toluene	ND ug/L		1.0	1		10/05/12 15:36	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/05/12 15:36	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/05/12 15:36	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/05/12 15:36	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/05/12 15:36	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	1		10/05/12 15:36	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		10/05/12 15:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		10/05/12 15:36	17060-07-0	
Toluene-d8 (S)	97 %		80-120	1		10/05/12 15:36	2037-26-5	
Preservation pH	1.0		0.10	1		10/05/12 15:36		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	212 mg/L		20.0	1		10/04/12 09:25		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	276 mg/L		5.0	1		10/03/12 15:25		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 15:09	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 8 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-15-100212	Lab ID: 60130282002	Collected: 10/02/12 13:40	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	5.2 mg/L		1.0	1		10/10/12 06:26	16887-00-6	
Sulfate	19.2 mg/L		1.0	1		10/10/12 06:26	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/03/12 16:42		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/03/12 16:42		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/03/12 16:42		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	3.6 mg/L		1.0	1		10/12/12 09:28	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	204 mg/L		20.0	1		10/12/12 16:10	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 9 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-32B-100212 Lab ID: 60130282003 Collected: 10/02/12 13:30 Received: 10/03/12 07:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND	ug/L	6.2	1		10/08/12 13:13	74-84-0	
Ethene	ND	ug/L	6.2	1		10/08/12 13:13	74-85-1	
Methane	156	ug/L	6.6	1		10/08/12 13:13	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	29900	ug/L	50.0	1	10/03/12 18:00	10/08/12 09:53	7439-89-6	
Manganese	1960	ug/L	5.0	1	10/03/12 18:00	10/08/12 09:53	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		10/05/12 15:51	67-64-1	
Benzene	14.8	ug/L	1.0	1		10/05/12 15:51	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		10/05/12 15:51	75-15-0	
Chlorobenzene	651	ug/L	10.0	10		10/07/12 12:51	108-90-7	
Chloroform	ND	ug/L	1.0	1		10/05/12 15:51	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/05/12 15:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/05/12 15:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/05/12 15:51	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/05/12 15:51	100-41-4	
Iodomethane	ND	ug/L	10.0	1		10/05/12 15:51	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		10/05/12 15:51	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		10/05/12 15:51	127-18-4	
Toluene	ND	ug/L	1.0	1		10/05/12 15:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/05/12 15:51	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		10/05/12 15:51	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/05/12 15:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/05/12 15:51	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102	%	80-120	1		10/05/12 15:51	460-00-4	
Dibromofluoromethane (S)	95	%	80-120	1		10/05/12 15:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		10/05/12 15:51	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		10/05/12 15:51	2037-26-5	
Preservation pH	1.0		0.10	1		10/05/12 15:51		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	488	mg/L	20.0	1		10/04/12 09:32		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	837	mg/L	5.0	1		10/03/12 15:25		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/09/12 15:41	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 10 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-32B-100212	Lab ID: 60130282003	Collected: 10/02/12 13:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	56.1 mg/L		10.0	10		10/09/12 01:42	16887-00-6	
Sulfate	133 mg/L		10.0	10		10/09/12 01:42	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/03/12 16:41		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/03/12 16:41		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/03/12 16:41		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	4.0 mg/L		1.0	1		10/12/12 09:57	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	469 mg/L		20.0	1		10/12/12 16:10	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-33B-100212	Lab ID: 60130282004	Collected: 10/02/12 10:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/08/12 13:24	74-84-0	
Ethene	ND ug/L		6.2	1		10/08/12 13:24	74-85-1	
Methane	99.0 ug/L		6.6	1		10/08/12 13:24	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	52800 ug/L		50.0	1	10/03/12 18:00	10/08/12 09:55	7439-89-6	
Manganese	2190 ug/L		5.0	1	10/03/12 18:00	10/08/12 09:55	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/05/12 16:06	67-64-1	
Benzene	15.7 ug/L		1.0	1		10/05/12 16:06	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/05/12 16:06	75-15-0	
Chlorobenzene	11300 ug/L		100	100		10/08/12 15:17	108-90-7	
Chloroform	ND ug/L		1.0	1		10/05/12 16:06	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/05/12 16:06	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/05/12 16:06	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/05/12 16:06	156-60-5	
Ethylbenzene	1.3 ug/L		1.0	1		10/05/12 16:06	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/05/12 16:06	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/05/12 16:06	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/05/12 16:06	127-18-4	
Toluene	1.1 ug/L		1.0	1		10/05/12 16:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/05/12 16:06	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/05/12 16:06	79-01-6	
Vinyl chloride	2.9 ug/L		1.0	1		10/05/12 16:06	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/05/12 16:06	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105 %		80-120	1		10/05/12 16:06	460-00-4	
Dibromofluoromethane (S)	102 %		80-120	1		10/05/12 16:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	100 %		80-120	1		10/05/12 16:06	17060-07-0	
Toluene-d8 (S)	170 %		80-120	1		10/05/12 16:06	2037-26-5	S0
Preservation pH	1.0		0.10	1		10/05/12 16:06		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	471 mg/L		20.0	1		10/04/12 09:38		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1040 mg/L		5.0	1		10/03/12 15:26		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 15:20	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

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Page 12 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-33B-100212	Lab ID: 60130282004	Collected: 10/02/12 10:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	90.4 mg/L		10.0	10		10/09/12 02:34	16887-00-6	
Sulfate	252 mg/L		20.0	20		10/09/12 16:30	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/03/12 16:25		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/03/12 16:25		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/03/12 16:25		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	8.1 mg/L		1.0	1		10/12/12 10:39	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	474 mg/L		20.0	1		10/12/12 16:10	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 13 of 33

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

Sample: MW-34B-100212	Lab ID: 60130282005	Collected: 10/02/12 09:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/08/12 17:07	74-84-0	
Ethene	ND ug/L		6.2	1		10/08/12 17:07	74-85-1	
Methane	<b>40.6 ug/L</b>		6.6	1		10/08/12 17:07	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	<b>27100 ug/L</b>		50.0	1	10/03/12 18:00	10/08/12 09:57	7439-89-6	
Manganese	<b>2190 ug/L</b>		5.0	1	10/03/12 18:00	10/08/12 09:57	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/07/12 13:22	67-64-1	
Benzene	ND ug/L		1.0	1		10/07/12 13:22	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/07/12 13:22	75-15-0	
Chlorobenzene	<b>1.2 ug/L</b>		1.0	1		10/07/12 13:22	108-90-7	
Chloroform	ND ug/L		1.0	1		10/07/12 13:22	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/07/12 13:22	107-06-2	
cis-1,2-Dichloroethene	<b>1.4 ug/L</b>		1.0	1		10/07/12 13:22	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/07/12 13:22	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/07/12 13:22	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/07/12 13:22	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/07/12 13:22	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/07/12 13:22	127-18-4	
Toluene	ND ug/L		1.0	1		10/07/12 13:22	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/07/12 13:22	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/07/12 13:22	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/07/12 13:22	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/07/12 13:22	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	<b>104 %</b>		80-120	1		10/07/12 13:22	460-00-4	
Dibromofluoromethane (S)	<b>106 %</b>		80-120	1		10/07/12 13:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	<b>108 %</b>		80-120	1		10/07/12 13:22	17060-07-0	
Toluene-d8 (S)	<b>101 %</b>		80-120	1		10/07/12 13:22	2037-26-5	
Preservation pH	<b>1.0</b>		0.10	1		10/07/12 13:22		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<b>576 mg/L</b>		20.0	1		10/04/12 09:54		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	<b>1230 mg/L</b>		5.0	1		10/03/12 15:26		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	<b>7.2 Std. Units</b>		0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 15:20	18496-25-8	

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Page 14 of 33

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60130282

Sample: MW-34B-100212	Lab ID: 60130282005	Collected: 10/02/12 09:30	Received: 10/03/12 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	130 mg/L		10.0	10			10/09/12 02:52	16887-00-6
Sulfate	286 mg/L		20.0	20			10/09/12 16:47	14808-79-8
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1			10/03/12 16:23	
Nitrogen, Nitrite	ND mg/L		0.10	1			10/03/12 16:23	
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1			10/03/12 16:23	
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	4.0 mg/L		1.0	1			10/12/12 10:53	7440-44-0
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	579 mg/L		20.0	1			10/12/12 16:10	124-38-9

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## REPORT OF LABORATORY ANALYSIS

Page 15 of 33

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: AIR/15897

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1304220

Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/08/12 11:25	
Ethene	ug/L	ND	6.2	10/08/12 11:25	
Methane	ug/L	ND	6.6	10/08/12 11:25	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1304221 1304222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	114	102	102	90	89	70-130	.6	.30	
Ethene	ug/L	106	95.8	95.0	90	90	70-130	.8	.30	
Methane	ug/L	60.7	55.4	55.2	91	91	70-130	.5	.30	

SAMPLE DUPLICATE: 1304861

Parameter	Units	92133894001 Result	Dup Result	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

SAMPLE DUPLICATE: 1304862

Parameter	Units	5070210001 Result	Dup Result	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

SAMPLE DUPLICATE: 1304863

Parameter	Units	60130281004 Result	Dup Result	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	36.4	38.3	5	30	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: MPRP/19787 Analysis Method: EPA 6010  
QC Batch Method: EPA 3010 Analysis Description: 6010 MET  
Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1072506 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/08/12 09:16	
Manganese	ug/L	ND	5.0	10/08/12 09:16	

LABORATORY CONTROL SAMPLE: 1072507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9590	96	80-120	
Manganese	ug/L	1000	982	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1072508 1072509

Parameter	Units	60130045001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Iron	ug/L	1040	10000	10000	10800	11000	98	99	75-125	1	20	
Manganese	ug/L	20.5	1000	1000	986	991	97	97	75-125	1	20	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch:	MSV/49021	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60130282001, 60130282002, 60130282003, 60130282004		

METHOD BLANK: 1074066 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/05/12 13:01	
1,2-Dichloroethane	ug/L	ND	1.0	10/05/12 13:01	
Acetone	ug/L	ND	10.0	10/05/12 13:01	
Benzene	ug/L	ND	1.0	10/05/12 13:01	
Carbon disulfide	ug/L	ND	5.0	10/05/12 13:01	
Chlorobenzene	ug/L	ND	1.0	10/05/12 13:01	
Chloroform	ug/L	ND	1.0	10/05/12 13:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Ethylbenzene	ug/L	ND	1.0	10/05/12 13:01	
Iodomethane	ug/L	ND	10.0	10/05/12 13:01	
Methylene chloride	ug/L	ND	1.0	10/05/12 13:01	
Tetrachloroethene	ug/L	ND	1.0	10/05/12 13:01	
Toluene	ug/L	ND	1.0	10/05/12 13:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Trichloroethene	ug/L	ND	1.0	10/05/12 13:01	
Vinyl chloride	ug/L	ND	1.0	10/05/12 13:01	
Xylene (Total)	ug/L	ND	3.0	10/05/12 13:01	
1,2-Dichloroethane-d4 (S)	%	100	80-120	10/05/12 13:01	
4-Bromofluorobenzene (S)	%	106	80-120	10/05/12 13:01	
Dibromofluoromethane (S)	%	103	80-120	10/05/12 13:01	
Toluene-d8 (S)	%	102	80-120	10/05/12 13:01	

LABORATORY CONTROL SAMPLE: 1074067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	76-120	
1,2-Dichloroethane	ug/L	20	19.7	98	72-123	
Acetone	ug/L	100	98.9	99	40-160	
Benzene	ug/L	20	19.8	99	74-123	
Carbon disulfide	ug/L	20	17.3	87	67-135	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroform	ug/L	20	18.6	93	77-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	103	70-120	
Ethylbenzene	ug/L	20	18.0	90	76-123	
Iodomethane	ug/L	20	19.9	100	40-160	
Methylene chloride	ug/L	20	21.1	105	72-127	
Tetrachloroethene	ug/L	20	17.0	85	78-121	
Toluene	ug/L	20	18.2	91	75-123	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	80-129	
Trichloroethene	ug/L	20	19.5	97	74-120	
Vinyl chloride	ug/L	20	19.3	97	50-140	

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Page 18 of 33



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

LABORATORY CONTROL SAMPLE: 1074067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	53.0	88	76-123	
1,2-Dichloroethane-d4 (S)	%			118	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			115	80-120	
Toluene-d8 (S)	%			103	80-120	

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## REPORT OF LABORATORY ANALYSIS

Page 19 of 33

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: MSV/49049 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130282003, 60130282005

METHOD BLANK: 1075332

Matrix: Water

Associated Lab Samples: 60130282003, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/07/12 12:36	
1,2-Dichloroethane	ug/L	ND	1.0	10/07/12 12:36	
Acetone	ug/L	ND	10.0	10/07/12 12:36	
Benzene	ug/L	ND	1.0	10/07/12 12:36	
Carbon disulfide	ug/L	ND	5.0	10/07/12 12:36	
Chlorobenzene	ug/L	ND	1.0	10/07/12 12:36	
Chloroform	ug/L	ND	1.0	10/07/12 12:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Ethylbenzene	ug/L	ND	1.0	10/07/12 12:36	
Iodomethane	ug/L	ND	10.0	10/07/12 12:36	
Methylene chloride	ug/L	ND	1.0	10/07/12 12:36	
Tetrachloroethene	ug/L	ND	1.0	10/07/12 12:36	
Toluene	ug/L	ND	1.0	10/07/12 12:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Trichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Vinyl chloride	ug/L	ND	1.0	10/07/12 12:36	
Xylene (Total)	ug/L	ND	3.0	10/07/12 12:36	
1,2-Dichloroethane-d4 (S)	%	105	80-120	10/07/12 12:36	
4-Bromofluorobenzene (S)	%	97	80-120	10/07/12 12:36	
Dibromofluoromethane (S)	%	100	80-120	10/07/12 12:36	
Toluene-d8 (S)	%	96	80-120	10/07/12 12:36	

LABORATORY CONTROL SAMPLE: 1075333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	91	76-120	
1,2-Dichloroethane	ug/L	20	16.6	83	72-123	
Acetone	ug/L	100	101	101	40-160	
Benzene	ug/L	20	16.0	80	74-123	
Carbon disulfide	ug/L	20	15.5	77	67-135	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroform	ug/L	20	16.4	82	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.1	81	70-120	
Ethylbenzene	ug/L	20	17.3	86	76-123	
Iodomethane	ug/L	20	20.2	101	40-160	
Methylene chloride	ug/L	20	17.4	87	72-127	
Tetrachloroethene	ug/L	20	17.1	86	78-121	
Toluene	ug/L	20	17.6	88	75-123	
trans-1,2-Dichloroethene	ug/L	20	16.9	84	80-129	
Trichloroethene	ug/L	20	15.7	78	74-120	
Vinyl chloride	ug/L	20	18.7	94	50-140	

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Page 20 of 33

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

LABORATORY CONTROL SAMPLE: 1075333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	52.7	88	76-123	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1075334 1075335

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
		60130347003	Spike Conc.	Spike Conc.	Result						RPD	RPD
1,1,1-Trichloroethane	ug/L	ND	1000	1000	868	830	87	83	62-146	4	32	
1,2-Dichloroethane	ug/L	ND	1000	1000	822	841	82	84	52-146	2	35	
Acetone	ug/L	ND	5000	5000	4170	4610	83	92	40-151	10	35	
Benzene	ug/L	ND	1000	1000	806	808	80	80	40-155	0	45	
Carbon disulfide	ug/L	ND	1000	1000	707	674	71	67	55-153	5	32	
Chlorobenzene	ug/L	ND	1000	1000	875	850	86	84	54-141	3	31	
Chloroform	ug/L	ND	1000	1000	854	810	85	81	59-138	5	29	
cis-1,2-Dichloroethene	ug/L	ND	1000	1000	800	789	80	79	46-144	1	34	
methylbenzene	ug/L	71.4	1000	1000	938	966	87	89	40-158	3	48	
Iodomethane	ug/L	ND	1000	1000	719	806	72	81	40-132	11	44	
Methylene chloride	ug/L	ND	1000	1000	835	769	83	77	60-137	8	28	
Tetrachloroethene	ug/L	ND	1000	1000	883	900	88	90	54-152	2	35	
Toluene	ug/L	ND	1000	1000	899	871	89	86	42-151	3	46	
trans-1,2-Dichloroethene	ug/L	ND	1000	1000	847	812	85	81	66-152	4	30	
Trichloroethene	ug/L	ND	1000	1000	841	812	84	81	51-146	3	34	
Vinyl chloride	ug/L	ND	1000	1000	757	758	76	76	40-160	0	30	
Xylene (Total)	ug/L	ND	3000	3000	2670	2580	87	84	40-151	3	45	
1,2-Dichloroethane-d4 (S)	%						96	102	80-120			
4-Bromofluorobenzene (S)	%						97	101	80-120			
Dibromofluoromethane (S)	%						100	99	80-120			
Toluene-d8 (S)	%						104	106	80-120			
Preservation pH		1.0			1.0	1.0				0		

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## REPORT OF LABORATORY ANALYSIS

Page 21 of 33

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: MSV/49072 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130282004

METHOD BLANK: 1075589 Matrix: Water

Associated Lab Samples: 60130282004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/L	ND	1.0	10/08/12 12:43	
1,2-Dichloroethane-d4 (S)	%	106	80-120	10/08/12 12:43	
4-Bromofluorobenzene (S)	%	101	80-120	10/08/12 12:43	
Dibromofluoromethane (S)	%	106	80-120	10/08/12 12:43	
Toluene-d8 (S)	%	109	80-120	10/08/12 12:43	

LABORATORY CONTROL SAMPLE: 1075590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	20.2	101	80-120	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			104	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WET/37488 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1072576 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	10/04/12 08:01	

LABORATORY CONTROL SAMPLE: 1072577

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	488	98	90-110	

SAMPLE DUPLICATE: 1072578

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	60130313001	94.5	96.5	2	9

SAMPLE DUPLICATE: 1072579

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	60130223003	78.6	77.5	1	9

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WET/37483 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1072315 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/03/12 15:21	

SAMPLE DUPLICATE: 1072316

Parameter	Units	60130206001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1610	1600	1	17	

SAMPLE DUPLICATE: 1072317

Parameter	Units	60130282003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	837	831	1	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WET/37527 Analysis Method: SM 4500-H+B  
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH  
Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

SAMPLE DUPLICATE: 1074588

Parameter	Units	92133973001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	3.7	3.8	2	5	H6

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch:	WET/37570	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples:	60130282001, 60130282002, 60130282003, 60130282004, 60130282005		

METHOD BLANK: 1075972 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/09/12 15:09	

LABORATORY CONTROL SAMPLE: 1075973

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.47	93	80-120	

MATRIX SPIKE SAMPLE: 1075974

Parameter	Units	60130282001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.14	.5	0.77	126	75-125	M1

SAMPLE DUPLICATE: 1075975

Parameter	Units	60130282002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 1075976

Parameter	Units	60130283004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130282

QC Batch: WETA/21943 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1075446 Matrix: Water

Associated Lab Samples: 60130282001, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/08/12 16:08	
Sulfate	mg/L	ND	1.0	10/08/12 16:08	

METHOD BLANK: 1075918 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/09/12 10:42	
Sulfate	mg/L	ND	1.0	10/09/12 10:42	

LABORATORY CONTROL SAMPLE: 1075447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 1075919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE SAMPLE: 1075448

Parameter	Units	60129847001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	1.7	5	6.4	94	61-119	

MATRIX SPIKE SAMPLE: 1075449

Parameter	Units	60129978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	111	50	170	119	64-118	M6
Sulfate	mg/L	1520	500	1960	87	61-119	

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Page 27 of 33

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WETA/21878

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60130282004, 60130282005

METHOD BLANK: 1072240

Matrix: Water

Associated Lab Samples: 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/03/12 16:00	
Nitrogen, Nitrite	mg/L	ND	0.10	10/03/12 16:00	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/03/12 16:00	

LABORATORY CONTROL SAMPLE: 1072241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.8	110	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	103	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.2	109	90-110	

MATRIX SPIKE SAMPLE: 1072242

Parameter	Units	60130286001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L		1.7	1.6	3.3	97	90-110
Nitrogen, Nitrite	mg/L		ND	.4	0.40	100	90-110
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L		1.7	2	3.7	97	90-110

MATRIX SPIKE SAMPLE: 1072244

Parameter	Units	60130281001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L		ND	1.6	1.8	110	90-110
Nitrogen, Nitrite	mg/L		ND	.4	0.41	103	90-110
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L		ND	2	2.2	109	90-110

SAMPLE DUPLICATE: 1072243

Parameter	Units	60130283002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.77	0.76	1	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.77	0.76	1	13	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WETA/21879 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60130282001, 60130282002, 60130282003

METHOD BLANK: 1072245 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/03/12 16:46	
Nitrogen, Nitrite	mg/L	ND	0.10	10/03/12 16:46	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/03/12 16:46	

LABORATORY CONTROL SAMPLE: 1072246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	109	90-110	
Nitrogen, Nitrite	mg/L	.4	0.42	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1072247

Parameter	Units	60130288002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.8	1.6	3.3	97	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.42	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	1.8	2	3.8	99	90-110	

MATRIX SPIKE SAMPLE: 1072249

Parameter	Units	60130288001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	108	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.33	82	90-110	M1
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	103	90-110	

SAMPLE DUPLICATE: 1072248

Parameter	Units	60130288001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	2.2	2.2	1	15	
Nitrogen, Nitrite	mg/L	0.096J	.097J		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2.3	2.3	1	13	

Date: 10/15/2012 05:45 PM

## REPORT OF LABORATORY ANALYSIS

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Page 29 of 33

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

QC Batch: WETA/22018 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

METHOD BLANK: 1077886 Matrix: Water

Associated Lab Samples: 60130282001, 60130282002, 60130282003, 60130282004, 60130282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/12/12 08:32	

LABORATORY CONTROL SAMPLE: 1077887

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	107	80-120	

MATRIX SPIKE SAMPLE: 1077888

Parameter	Units	60130282001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	21.6	2.5	24.0	96	80-120	

SAMPLE DUPLICATE: 1077889

Parameter	Units	60130282002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	3.6	3.4	5	25	

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130282

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/49021

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/49072

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

S0 Surrogate recovery outside laboratory control limits.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130282

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130282001	MW-38A-100212	RSK 175	AIR/15897		
60130282002	MW-15-100212	RSK 175	AIR/15897		
60130282003	MW-32B-100212	RSK 175	AIR/15897		
60130282004	MW-33B-100212	RSK 175	AIR/15897		
60130282005	MW-34B-100212	RSK 175	AIR/15897		
60130282001	MW-38A-100212	EPA 3010	MPRP/19787	EPA 6010	ICP/16292
60130282002	MW-15-100212	EPA 3010	MPRP/19787	EPA 6010	ICP/16292
60130282003	MW-32B-100212	EPA 3010	MPRP/19787	EPA 6010	ICP/16292
60130282004	MW-33B-100212	EPA 3010	MPRP/19787	EPA 6010	ICP/16292
60130282005	MW-34B-100212	EPA 3010	MPRP/19787	EPA 6010	ICP/16292
60130282001	MW-38A-100212	EPA 5030B/8260	MSV/49021		
60130282002	MW-15-100212	EPA 5030B/8260	MSV/49021		
60130282003	MW-32B-100212	EPA 5030B/8260	MSV/49021		
60130282003	MW-32B-100212	EPA 5030B/8260	MSV/49049		
60130282004	MW-33B-100212	EPA 5030B/8260	MSV/49021		
60130282004	MW-33B-100212	EPA 5030B/8260	MSV/49072		
60130282005	MW-34B-100212	EPA 5030B/8260	MSV/49049		
60130282001	MW-38A-100212	SM 2320B	WET/37488		
60130282002	MW-15-100212	SM 2320B	WET/37488		
60130282003	MW-32B-100212	SM 2320B	WET/37488		
60130282004	MW-33B-100212	SM 2320B	WET/37488		
60130282005	MW-34B-100212	SM 2320B	WET/37488		
60130282001	MW-38A-100212	SM 2540C	WET/37483		
60130282002	MW-15-100212	SM 2540C	WET/37483		
60130282003	MW-32B-100212	SM 2540C	WET/37483		
60130282004	MW-33B-100212	SM 2540C	WET/37483		
60130282005	MW-34B-100212	SM 2540C	WET/37483		
60130282001	MW-38A-100212	SM 4500-H+B	WET/37527		
60130282002	MW-15-100212	SM 4500-H+B	WET/37527		
60130282003	MW-32B-100212	SM 4500-H+B	WET/37527		
60130282004	MW-33B-100212	SM 4500-H+B	WET/37527		
60130282005	MW-34B-100212	SM 4500-H+B	WET/37527		
60130282001	MW-38A-100212	SM 4500-S-2 D	WET/37570		
60130282002	MW-15-100212	SM 4500-S-2 D	WET/37570		
60130282003	MW-32B-100212	SM 4500-S-2 D	WET/37570		
60130282004	MW-33B-100212	SM 4500-S-2 D	WET/37570		
60130282005	MW-34B-100212	SM 4500-S-2 D	WET/37570		
60130282001	MW-38A-100212	EPA 300.0	WETA/21943		
60130282002	MW-15-100212	EPA 300.0	WETA/21943		
60130282003	MW-32B-100212	EPA 300.0	WETA/21943		
60130282004	MW-33B-100212	EPA 300.0	WETA/21943		
60130282005	MW-34B-100212	EPA 300.0	WETA/21943		
60130282001	MW-38A-100212	EPA 353.2	WETA/21879		

Date: 10/15/2012 05:45 PM

**REPORT OF LABORATORY ANALYSIS**

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Page 32 of 33



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Lenexa, KS 66219  
(913)599-5665

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130282

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130282002	MW-15-100212	EPA 353.2	WETA/21879		
60130282003	MW-32B-100212	EPA 353.2	WETA/21879		
60130282004	MW-33B-100212	EPA 353.2	WETA/21878		
60130282005	MW-34B-100212	EPA 353.2	WETA/21878		
60130282001	MW-38A-100212	SM 5310C	WETA/22018		
60130282002	MW-15-100212	SM 5310C	WETA/22018		
60130282003	MW-32B-100212	SM 5310C	WETA/22018		
60130282004	MW-33B-100212	SM 5310C	WETA/22018		
60130282005	MW-34B-100212	SM 5310C	WETA/22018		
60130282001	MW-38A-100212	SM 4500-CO2 D	WETA/22030		
60130282002	MW-15-100212	SM 4500-CO2 D	WETA/22030		
60130282003	MW-32B-100212	SM 4500-CO2 D	WETA/22030		
60130282004	MW-33B-100212	SM 4500-CO2 D	WETA/22030		
60130282005	MW-34B-100212	SM 4500-CO2 D	WETA/22030		



11 October 2012

Jamie Slade  
Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa, KS 66219

RE: PAS Subcontract-JS

60130282

Enclosed are the results of analyses for samples received by the laboratory on 10/05/12 09:30. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

#### **ANALYTICAL REPORT FOR SAMPLES**

<b>Client Sample ID</b>	<b>Laboratory ID</b>	<b>Matrix</b>	<b>Date Sampled</b>	<b>Date Received</b>
MW-15-100212	1J20364-01	Water	10/02/12 13:40	10/05/12 09:30

Client Supplied Containers



The logo consists of the word "MEMBER" in a small, sans-serif font above the letters "ACIL" in a large, bold, sans-serif font. The entire logo is enclosed in a thin black rectangular border.

Pace Analytical-KS  
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Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60130282  
Project Manager: Jamie Slade

Reported  
10/11/12 16:26

## **Chain of Custody**

**Workorder:** 601302B2      **Workorder Name:** SOLUTIA GROUNDWATER  
**P.O. SUB:** 6489  
Jamie Church  
Pace Analytical Kansas  
99608 Loire Blvd.  
Lenexa, KS 66219  
Phone: (913)599-5665  
Email: Jamie.church@pacealabs.com

*The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.*

Page 2 of 6

Phone 641-792-8451

600 East 17th Street South  
Newton, IA 50208

Fax 641-792-7989  
PacePackage P. 35 of 41



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Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60130282  
Project Manager: Jamie Slade

Reported  
10/11/12 16:26

**MW-15-100212**

**1J20364-01 (Water)**

**Date Sampled: 10/2/2012 1:40:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	ND	0.10	ug/L	1	IVJ0300	10/09/12	10/10/12 17:15	EPA 8141	
Surrogate: 2-Nitro-m-xylene		93.1 %		45-134	"	"	"	"	



Pace Analytical-KS  
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Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60130282  
Project Manager: Jamie Slade

Reported  
10/11/12 16:26

### Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

#### Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

#### Batch 1VJ0300 - 3510C NP/OC Sep Fnl

<u>Blank (1VJ0300-BLK1)</u>	Prepared: 10/09/12 Analyzed: 10/10/12							
Alachlor	ND	0.10	ug/L					
<i>Surrogate: 2-Nitro-m-xylene</i>	8.53	"		10.0560	84.8	45-134		
<u>LCS (1VJ0300-BS1)</u>	Prepared: 10/09/12 Analyzed: 10/10/12							
Alachlor	2.600	0.10	ug/L	2.74010	94.9	57-143		
<i>Surrogate: 2-Nitro-m-xylene</i>	8.73	"		10.0560	86.8	45-134		
<u>LCS Dup (1VJ0300-BSD1)</u>	Prepared: 10/09/12 Analyzed: 10/10/12							
Alachlor	3.030	0.10	ug/L	2.74010	111	57-143	15.3	30
<i>Surrogate: 2-Nitro-m-xylene</i>	9.20	"		10.0560	91.4	45-134		
<u>Reference (1VJ0300-SRM1)</u>	Prepared: 10/09/12 Analyzed: 10/10/12							
Alachlor	3.295	0.10	ug/L	2.74010	120	70-130		
<i>Surrogate: 2-Nitro-m-xylene</i>	10.5	"		10.0560	105	45-134		

#### Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
---------------	---------	----------------

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2013
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2012
MO-KC	Missouri Department of Natural Resources	140	04/30/2013
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2013
SIA1X	Iowa Department of Natural Resources	95	02/01/2014

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 4 of 6



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9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60130282  
Project Manager: Jamie Slade

Reported  
10/11/12 16:26

### Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



MEMBER  
ACIL

Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract-JS  
Project Number: 60130282  
Project Manager: Jamie Slade

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10/11/12 16:26

Sue Thompson  
Project Manager II

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 6 of 6



## **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information		Section B Required Project Information		Section C Invoice Information:		Page: / of /		
Company	Environmental Operations	Report To	Larry Rosen	Attention:				
Address:	1530 S. Second St. Ste. 200	Copy To		Company Name:		REGULATORY AGENCY		
St. Louis, MO 63104				Address:		<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
Email To	larryr@environmentalops.com		Purchase Order No	Pace Quote Reference:		<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER <u>POTW</u>
Phone	314-241-0900	Fax	314-436-2900	Project Name	Solutia Groundwater	Pace Project Manager	Jamie Slade	
Requested Due Date/TAT:		<u>Standard</u>		Project Number	Z950	Pace Profile #:		
Site Location				STATE:	MO			

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	<i>Robert Andrews</i>		
SIGNATURE of SAMPLER:	<i>Robert Andrews</i>	DATE Signed (MM/DD/YY):	<i>10-02-12</i>
Temp in °C	Received on ice (Y/N)	Custody Sealed Coker (Y/N)	Samples intact (Y/N)

**Important:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1 ½% per month for any bill not paid within 30 days.

E-Al 1 - Q-020 rev. D8 12-07



## Sample Condition Upon Receipt

Client Name: 801 Project # 60130282

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other via

Tracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  No

Custody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  No

Optional	
Proj. Due Date:	10/10
Proj. Name:	

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other

Thermometer Used: T-191 / T-194 Type of Ice:  Wet  Blue  None  Samples on ice, cooling process has begun

Cooler Temperature: 2.4

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 10/3

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. nos	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.	
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.	
-Includes date/time/ID/analyses Matrix:	nos	10/13-6 ruoJ	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Exceptions: <input checked="" type="checkbox"/> VOA, <input checked="" type="checkbox"/> O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed	Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Pace Trip Blank lot # (if purchased):			
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.	
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <i>a</i>	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: *Jamie Smith* Date: 10/3/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 18, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130401

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 19

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60130401

---

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nevada Certification #: MN\_00064  
 Nebraska Certification #: Pace  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

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Page 2 of 19

## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130401001	MW-30B	Water	10/03/12 11:00	10/04/12 07:35

## REPORT OF LABORATORY ANALYSIS

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Page 3 of 19

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60130401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130401001	MW-30B	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K

### REPORT OF LABORATORY ANALYSIS

Page 4 of 19

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

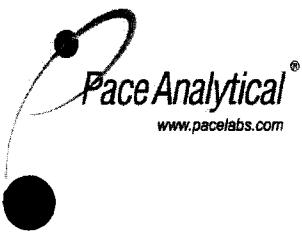
Sample: MW-30B	Lab ID: 60130401001	Collected: 10/03/12 11:00	Received: 10/04/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	12.7	ug/L	6.2	1		10/09/12 15:39	74-84-0	
Ethene	ND	ug/L	6.2	1		10/09/12 15:39	74-85-1	
Methane	6.9	ug/L	6.6	1		10/09/12 15:39	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	11100	ug/L	50.0	1	10/05/12 11:00	10/10/12 17:31	7439-89-6	
Manganese	2450	ug/L	5.0	1	10/05/12 11:00	10/10/12 17:31	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	50.0	5		10/07/12 16:43	67-64-1	
Benzene	ND	ug/L	5.0	5		10/07/12 16:43	71-43-2	
Carbon disulfide	ND	ug/L	25.0	5		10/07/12 16:43	75-15-0	
Chlorobenzene	664	ug/L	5.0	5		10/07/12 16:43	108-90-7	
Chloroform	ND	ug/L	5.0	5		10/07/12 16:43	67-66-3	
1,2-Dichloroethane	ND	ug/L	5.0	5		10/07/12 16:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		10/07/12 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		10/07/12 16:43	156-60-5	
Ethylbenzene	ND	ug/L	5.0	5		10/07/12 16:43	100-41-4	
Iodomethane	ND	ug/L	50.0	5		10/07/12 16:43	74-88-4	
Methylene chloride	ND	ug/L	5.0	5		10/07/12 16:43	75-09-2	
Tetrachloroethene	ND	ug/L	5.0	5		10/07/12 16:43	127-18-4	
Toluene	ND	ug/L	5.0	5		10/07/12 16:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	5		10/07/12 16:43	71-55-6	
Trichloroethene	ND	ug/L	5.0	5		10/07/12 16:43	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		10/07/12 16:43	75-01-4	
Xylene (Total)	ND	ug/L	15.0	5		10/07/12 16:43	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	5		10/07/12 16:43	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	5		10/07/12 16:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		80-120	5		10/07/12 16:43	17060-07-0	
Toluene-d8 (S)	107 %		80-120	5		10/07/12 16:43	2037-26-5	
Preservation pH	1.0		0.10	5		10/07/12 16:43		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	658	mg/L	20.0	1		10/10/12 08:59		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1580	mg/L	5.0	1		10/05/12 10:17		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		10/05/12 17:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		10/09/12 13:29	18496-25-8	

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Page 5 of 19



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

Sample: MW-30B	Lab ID: 60130401001	Collected: 10/03/12 11:00	Received: 10/04/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	74.0 mg/L		10.0	10		10/09/12 12:11	16887-00-6	
Sulfate	508 mg/L		50.0	50		10/12/12 11:04	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/04/12 16:12		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/04/12 16:12		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/04/12 16:12		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	4.5 mg/L		1.0	1		10/17/12 09:23	7440-44-0	M1
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	645 mg/L		20.0	1		10/10/12 09:00	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 6 of 19

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch: AIR/15908

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60130401001

METHOD BLANK: 1304774

Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/09/12 11:26	
Ethene	ug/L	ND	6.2	10/09/12 11:26	
Methane	ug/L	ND	6.6	10/09/12 11:26	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1304775

1304776

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	102	102	89	90	70-130	.2	30	
Ethene	ug/L	106	95.3	95.4	90	90	70-130	.1	30	
Methane	ug/L	60.7	55.6	55.6	92	92	70-130	.09	30	

SAMPLE DUPLICATE: 1306728

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	2950	3190	8	30	

SAMPLE DUPLICATE: 1306729

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

SAMPLE DUPLICATE: 1306730

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	224	284	24	30	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch:	MPRP/19826	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
Associated Lab Samples:	60130401001		

METHOD BLANK: 1073883 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/10/12 17:27	
Manganese	ug/L	ND	5.0	10/10/12 17:27	

LABORATORY CONTROL SAMPLE: 1073884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9360	94	80-120	
Manganese	ug/L	1000	959	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1073885 1073886

Parameter	Units	60130401001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	11100	10000	10000	19700	20600	85	95	75-125	5	20	
Manganese	ug/L	2450	1000	1000	3240	3380	79	94	75-125	4	20	

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## REPORT OF LABORATORY ANALYSIS

Page 8 of 19

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch: MSV/49049 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130401001

METHOD BLANK: 1075332

Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/07/12 12:36	
1,2-Dichloroethane	ug/L	ND	1.0	10/07/12 12:36	
Acetone	ug/L	ND	10.0	10/07/12 12:36	
Benzene	ug/L	ND	1.0	10/07/12 12:36	
Carbon disulfide	ug/L	ND	5.0	10/07/12 12:36	
Chlorobenzene	ug/L	ND	1.0	10/07/12 12:36	
Chloroform	ug/L	ND	1.0	10/07/12 12:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Ethylbenzene	ug/L	ND	1.0	10/07/12 12:36	
Iodomethane	ug/L	ND	10.0	10/07/12 12:36	
Methylene chloride	ug/L	ND	1.0	10/07/12 12:36	
Tetrachloroethene	ug/L	ND	1.0	10/07/12 12:36	
Toluene	ug/L	ND	1.0	10/07/12 12:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Trichloroethene	ug/L	ND	1.0	10/07/12 12:36	
Vinyl chloride	ug/L	ND	1.0	10/07/12 12:36	
Xylene (Total)	ug/L	ND	3.0	10/07/12 12:36	
1,2-Dichloroethane-d4 (S)	%	105	80-120	10/07/12 12:36	
4-Bromofluorobenzene (S)	%	97	80-120	10/07/12 12:36	
Dibromofluoromethane (S)	%	100	80-120	10/07/12 12:36	
Toluene-d8 (S)	%	96	80-120	10/07/12 12:36	

LABORATORY CONTROL SAMPLE: 1075333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	91	76-120	
1,2-Dichloroethane	ug/L	20	16.6	83	72-123	
Acetone	ug/L	100	101	101	40-160	
Benzene	ug/L	20	16.0	80	74-123	
Carbon disulfide	ug/L	20	15.5	77	67-135	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroform	ug/L	20	16.4	82	77-120	
cis-1,2-Dichloroethene	ug/L	20	16.1	81	70-120	
Ethylbenzene	ug/L	20	17.3	86	76-123	
Iodomethane	ug/L	20	20.2	101	40-160	
Methylene chloride	ug/L	20	17.4	87	72-127	
Tetrachloroethene	ug/L	20	17.1	86	78-121	
Toluene	ug/L	20	17.6	88	75-123	
trans-1,2-Dichloroethene	ug/L	20	16.9	84	80-129	
Trichloroethene	ug/L	20	15.7	78	74-120	
Vinyl chloride	ug/L	20	18.7	94	50-140	

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Page 9 of 19

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130401

LABORATORY CONTROL SAMPLE: 1075333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	52.7	88	76-123	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1075334 1075335

Parameter	Units	60130347003 Result	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec	Max		
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	1000	1000	868	830	87	83	62-146	4	32	
1,2-Dichloroethane	ug/L	ND	1000	1000	822	841	82	84	52-146	2	35	
Acetone	ug/L	ND	5000	5000	4170	4610	83	92	40-151	10	35	
Benzene	ug/L	ND	1000	1000	806	808	80	80	40-155	0	45	
Carbon disulfide	ug/L	ND	1000	1000	707	674	71	67	55-153	5	32	
Chlorobenzene	ug/L	ND	1000	1000	875	850	86	84	54-141	3	31	
Chloroform	ug/L	ND	1000	1000	854	810	85	81	59-138	5	29	
cis-1,2-Dichloroethene	ug/L	ND	1000	1000	800	789	80	79	46-144	1	34	
Chlybenzene	ug/L	71.4	1000	1000	938	966	87	89	40-158	3	48	
Iodomethane	ug/L	ND	1000	1000	719	806	72	81	40-132	11	44	
Methylene chloride	ug/L	ND	1000	1000	835	769	83	77	60-137	8	28	
Tetrachloroethene	ug/L	ND	1000	1000	883	900	88	90	54-152	2	35	
Toluene	ug/L	ND	1000	1000	899	871	89	86	42-151	3	46	
trans-1,2-Dichloroethene	ug/L	ND	1000	1000	847	812	85	81	66-152	4	30	
Trichloroethene	ug/L	ND	1000	1000	841	812	84	81	51-146	3	34	
Vinyl chloride	ug/L	ND	1000	1000	757	758	76	76	40-160	0	30	
Xylene (Total)	ug/L	ND	3000	3000	2670	2580	87	84	40-151	3	45	
1,2-Dichloroethane-d4 (S)	%						96	102	80-120			
4-Bromofluorobenzene (S)	%						97	101	80-120			
Dibromofluoromethane (S)	%						100	99	80-120			
Toluene-d8 (S)	%						104	106	80-120			
Preservation pH		1.0			1.0	1.0				0		

Date: 10/18/2012 01:34 PM

**REPORT OF LABORATORY ANALYSIS**

Page 10 of 19

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch:	WET/37584	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60130401001		

METHOD BLANK: 1076387	Matrix: Water
-----------------------	---------------

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	10/10/12 08:47	

LABORATORY CONTROL SAMPLE: 1076388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 1076389

Parameter	Units	60130401001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	658	676	3	9	

SAMPLE DUPLICATE: 1076390

Parameter	Units	60130769024 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	110	109	1	9	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130401

QC Batch: WET/37509 Analysis Method: SM 2540C  
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids  
Associated Lab Samples: 60130401001

METHOD BLANK: 1073815 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/05/12 10:12	

SAMPLE DUPLICATE: 1073816

Parameter	Units	60130287002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	773	775	0	17	

SAMPLE DUPLICATE: 1073817

Parameter	Units	60130401001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1580	1570	0	17	

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Page 12 of 19

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch: WET/37527 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60130401001

SAMPLE DUPLICATE: 1074588

Parameter	Units	92133973001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	3.7	3.8	2	5	H6

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130401

QC Batch: WET/37571 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60130401001

METHOD BLANK: 1075977 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/09/12 13:25	

LABORATORY CONTROL SAMPLE: 1075978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.46	92	80-120	

MATRIX SPIKE SAMPLE: 1075979

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.43	83	75-125	

SAMPLE DUPLICATE: 1075980

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 1075981

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	.026J		20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch:	WETA/21964	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60130401001		

METHOD BLANK: 1075948 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/09/12 11:40	

METHOD BLANK: 1076441 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/12/12 10:28	

LABORATORY CONTROL SAMPLE: 1075949

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	

LABORATORY CONTROL SAMPLE: 1076442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	90-110	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch: WETA/21901 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60130401001

METHOD BLANK: 1073099 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/04/12 15:52	
Nitrogen, Nitrite	mg/L	ND	0.10	10/04/12 15:52	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/04/12 15:52	

LABORATORY CONTROL SAMPLE: 1073100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.6	101	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1073101

Parameter	Units	60130402010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	102	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.41	103	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1073103

Parameter	Units	60130385002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	17.6	6.4	21.6	63	90-110	M1
Nitrogen, Nitrite	mg/L	ND	1.6	1.7	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	17.6	8	23.3	71	90-110	M1

SAMPLE DUPLICATE: 1073102

Parameter	Units	60130404002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	1.9	1.9	1	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	1.9	1.9	1	13	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

QC Batch:	WETA/22088	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
Associated Lab Samples:	60130401001		

METHOD BLANK: 1080813 Matrix: Water

Associated Lab Samples: 60130401001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/17/12 08:41	

LABORATORY CONTROL SAMPLE: 1080814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.0	101	80-120	

MATRIX SPIKE SAMPLE: 1080815

Parameter	Units	60130401001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	4.5	5	11.6	142	80-120	M1

SAMPLE DUPLICATE: 1080816

Parameter	Units	60130576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	86.8	84.3	3	25	



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## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130401001	MW-30B	RSK 175	AIR/15908		
60130401001	MW-30B	EPA 3010	MPRP/19826	EPA 6010	ICP/16312
60130401001	MW-30B	EPA 5030B/8260	MSV/49049		
60130401001	MW-30B	SM 2320B	WET/37584		
60130401001	MW-30B	SM 2540C	WET/37509		
60130401001	MW-30B	SM 4500-H+B	WET/37527		
60130401001	MW-30B	SM 4500-S-2 D	WET/37571		
60130401001	MW-30B	EPA 300.0	WETA/21964		
60130401001	MW-30B	EPA 353.2	WETA/21901		
60130401001	MW-30B	SM 5310C	WETA/22088		
60130401001	MW-30B	SM 4500-CO2 D	WETA/22110		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information		Section B Required Project Information:		Section C Invoice Information		Page: _____ of _____		
Company:	Environmental Operations	Report To:	Larry Rosen	Attention:				
Address:	1530 S Second St. Ste. 200	Copy To:		Company Name:		<b>REGULATORY AGENCY</b>		
	St. Louis, MO 63104			Address:				
Email To:	<a href="mailto:larry@environmentalops.com">larry@environmentalops.com</a>	Purchase Order No.:		Pack/Quote Reference:		<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
Phone:	314-241-0900	Fax:	314-436-2900	Project Name:	Solutia Groundwater	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER POTW
Requested Due Date/TAT:		Project Number:	2050	Pack/Profile #:		Site Location:	MO	
						STATE:		

ITEM #	Section D Required Client Information		Valid Matrix Codes		Matrix Code (see valid codes to left)		Sample Type (G=GRAB C=COMP)		Collected				Preservatives		Requested Analysis Filtered (Y/N)										Pace Project No./Lab I.D.  60130401									
			MATRIX CODE								COMPOSITE START		COMPOSITE END/GRAB		# OF CONTAINERS																			
			DRINKING WATER DW		WATER WT		WASTE WATER WW		PRODUCT P		SOIL/SLD SL		OIL OL		WIPE WP		AIR AR		OTHER OT		TISSUE TS													
1	SAMPLE ID (A-Z 0-9 / -) Sample IDs MUST BE UNIQUE																																	
2																																		
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		
ADDITIONAL COMMENTS				RELINQUISHED BY / AFFILIATION				DATE		TIME		ACCEPTED BY / AFFILIATION				DATE		TIME		SAMPLE CONDITIONS														
				10/03				1600						10/03		0735		1-7 7 7																

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on Ice (Y/N)	Posterior Sealed Container (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:	Derek Boudet	DATE Signed MM/DD/YY:	10/03/12				

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

WO# : 60130401



60130401

**Sample Condition Upon Receipt**Client Name: ENV OP Project # 60130401Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other VPA

Tracking #:

Pace Shipping Label Used?

 Yes  No

Custody Seal on Cooler/Box Present:

 Yes  No Seals intact:  Yes  No

Optional	
Proj. Due Date:	<u>10/11</u>
Proj. Name:	

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other ZPLThermometer Used: T-1911 T-194Type of Ice: Wet Blue None Samples on ice, cooling process has begunCooler Temperature: -17

Comments:

Date and Initials of person examining contents: M 10/4/12

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>MVS</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	<u>HAT</u>	
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>IN</u>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Project Manager Review: J. Brown, Manager Date: 10/4/12

Date: \_\_\_\_\_

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



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Lenexa, KS 66219  
(913)599-5665

October 16, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOUTIA GROUNDWATER  
Pace Project No.: 60130543

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 24

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

---

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nevada Certification #: MN\_00064  
Nebraska Certification #: Pace  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130543

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60130543001	MW-31B-100412	Water	10/04/12 11:30	10/05/12 08:15
60130543002	VW-2B-100412	Water	10/04/12 10:30	10/05/12 08:15
60130543003	VW-2B-100412-AD	Water	10/04/12 12:00	10/05/12 08:15
60130543004	TB-8	Water	10/04/12 00:00	10/05/12 08:15

## REPORT OF LABORATORY ANALYSIS

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Page 3 of 24

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60130543

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60130543001	<b>MW-31B-100412</b>	RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
60130543002	<b>VW-2B-100412</b>	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60130543003	<b>VW-2B-100412-AD</b>	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	JGP	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	SRM1	1	PASI-K
		SM 4500-S-2 D	NDL	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60130543004	<b>TB-8</b>	EPA 353.2	NDL	3	PASI-K
		SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K

### REPORT OF LABORATORY ANALYSIS

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Page 4 of 24



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

Sample: MW-31B-100412	Lab ID: 60130543001	Collected: 10/04/12 11:30	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/09/12 16:44	74-84-0	
Ethene	ND ug/L		6.2	1		10/09/12 16:44	74-85-1	
Methane	224 ug/L		6.6	1		10/09/12 16:44	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	22900 ug/L		50.0	1	10/08/12 16:15	10/11/12 12:06	7439-89-6	
Manganese	1520 ug/L		5.0	1	10/08/12 16:15	10/11/12 12:06	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/08/12 19:22	67-64-1	
Benzene	14.1 ug/L		1.0	1		10/08/12 19:22	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/08/12 19:22	75-15-0	
Chlorobenzene	2.8 ug/L		1.0	1		10/08/12 19:22	108-90-7	
Chloroform	ND ug/L		1.0	1		10/08/12 19:22	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/08/12 19:22	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 19:22	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 19:22	156-60-5	
methylbenzene	ND ug/L		1.0	1		10/08/12 19:22	100-41-4	
Dimethane	ND ug/L		10.0	1		10/08/12 19:22	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/08/12 19:22	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/08/12 19:22	127-18-4	
Toluene	1.6 ug/L		1.0	1		10/08/12 19:22	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/08/12 19:22	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/08/12 19:22	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/08/12 19:22	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/08/12 19:22	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		10/08/12 19:22	460-00-4	
Dibromofluoromethane (S)	96 %		80-120	1		10/08/12 19:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		80-120	1		10/08/12 19:22	17060-07-0	
Toluene-d8 (S)	108 %		80-120	1		10/08/12 19:22	2037-26-5	
Preservation pH	1.0		0.10	1		10/08/12 19:22		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	730 mg/L		20.0	1		10/11/12 09:23		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	973 mg/L		5.0	1		10/09/12 16:00		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9 Std. Units		0.10	1		10/08/12 15:22		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 13:32	18496-25-8	

Date: 10/16/2012 04:57 PM

## REPORT OF LABORATORY ANALYSIS

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Page 5 of 24

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

Sample: MW-31B-100412	Lab ID: 60130543001	Collected: 10/04/12 11:30	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	65.3	mg/L	10.0	10		10/11/12 00:58	16887-00-6	
Sulfate	88.0	mg/L	10.0	10		10/11/12 00:58	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/05/12 16:25		
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/05/12 16:25		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/05/12 16:25		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	3.9	mg/L	1.0	1		10/14/12 22:28	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	826	mg/L	20.0	1		10/16/12 16:30	124-38-9	

Date: 10/16/2012 04:57 PM

## REPORT OF LABORATORY ANALYSIS

Page 6 of 24

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

---

Sample: VW-2B-100412      Lab ID: 60130543002      Collected: 10/04/12 10:30      Received: 10/05/12 08:15      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/09/12 17:05	74-84-0	
Ethene	ND ug/L		6.2	1		10/09/12 17:05	74-85-1	
Methane	411 ug/L		6.6	1		10/09/12 17:05	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	29200 ug/L		50.0	1	10/08/12 16:15	10/11/12 12:10	7439-89-6	
Manganese	1610 ug/L		5.0	1	10/08/12 16:15	10/11/12 12:10	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/08/12 19:37	67-64-1	
Benzene	1.3 ug/L		1.0	1		10/08/12 19:37	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/08/12 19:37	75-15-0	
Chlorobenzene	19.4 ug/L		1.0	1		10/08/12 19:37	108-90-7	
Chloroform	ND ug/L		1.0	1		10/08/12 19:37	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/08/12 19:37	107-06-2	
cis-1,2-Dichloroethene	1.9 ug/L		1.0	1		10/08/12 19:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 19:37	156-60-5	
Phylbenzene	ND ug/L		1.0	1		10/08/12 19:37	100-41-4	
Dimethane	ND ug/L		10.0	1		10/08/12 19:37	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/08/12 19:37	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/08/12 19:37	127-18-4	
Toluene	ND ug/L		1.0	1		10/08/12 19:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/08/12 19:37	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/08/12 19:37	79-01-6	
Vinyl chloride	89.1 ug/L		1.0	1		10/08/12 19:37	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/08/12 19:37	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/08/12 19:37	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	1		10/08/12 19:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		80-120	1		10/08/12 19:37	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		10/08/12 19:37	2037-26-5	
Preservation pH	1.0		0.10	1		10/08/12 19:37		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	433 mg/L		20.0	1		10/11/12 09:28		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1150 mg/L		5.0	1		10/09/12 16:00		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0 Std. Units		0.10	1		10/08/12 15:22		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 13:33	18496-25-8	

Date: 10/16/2012 04:57 PM

## REPORT OF LABORATORY ANALYSIS

Page 7 of 24

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

Sample: VW-2B-100412	Lab ID: 60130543002	Collected: 10/04/12 10:30	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	<b>178</b>	mg/L	10.0	10		10/11/12 01:45	16887-00-6	
Sulfate	<b>282</b>	mg/L	20.0	20		10/12/12 17:26	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/05/12 16:23		
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/05/12 16:23		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/05/12 16:23		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	<b>2.8</b>	mg/L	1.0	1		10/14/12 22:42	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	<b>467</b>	mg/L	20.0	1		10/16/12 16:30	124-38-9	

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Page 8 of 24

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

Sample: VW-2B-100412-AD	Lab ID: 60130543003	Collected: 10/04/12 12:00	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/09/12 17:16	74-84-0	
Ethene	ND ug/L		6.2	1		10/09/12 17:16	74-85-1	
Methane	573 ug/L		6.6	1		10/09/12 17:16	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	25600 ug/L		50.0	1	10/08/12 16:15	10/11/12 12:13	7439-89-6	
Manganese	1490 ug/L		5.0	1	10/08/12 16:15	10/11/12 12:13	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/08/12 19:53	67-64-1	
Benzene	1.3 ug/L		1.0	1		10/08/12 19:53	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/08/12 19:53	75-15-0	
Chlorobenzene	19.7 ug/L		1.0	1		10/08/12 19:53	108-90-7	
Chloroform	ND ug/L		1.0	1		10/08/12 19:53	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/08/12 19:53	107-06-2	
cis-1,2-Dichloroethene	1.7 ug/L		1.0	1		10/08/12 19:53	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 19:53	156-60-5	
Phenylbenzene	ND ug/L		1.0	1		10/08/12 19:53	100-41-4	
Dimethylane	ND ug/L		10.0	1		10/08/12 19:53	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/08/12 19:53	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/08/12 19:53	127-18-4	
Toluene	ND ug/L		1.0	1		10/08/12 19:53	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/08/12 19:53	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/08/12 19:53	79-01-6	
Vinyl chloride	90.9 ug/L		1.0	1		10/08/12 19:53	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/08/12 19:53	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	98 %		80-120	1		10/08/12 19:53	460-00-4	
Dibromofluoromethane (S)	103 %		80-120	1		10/08/12 19:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		80-120	1		10/08/12 19:53	17060-07-0	
Toluene-d8 (S)	104 %		80-120	1		10/08/12 19:53	2037-26-5	
Preservation pH	1.0		0.10	1		10/08/12 19:53		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	426 mg/L		20.0	1		10/11/12 09:39		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1130 mg/L		5.0	1		10/09/12 16:00		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9 Std. Units		0.10	1		10/08/12 15:22		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/09/12 13:34	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

Page 9 of 24

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

Sample: VW-2B-100412-AD	Lab ID: 60130543003	Collected: 10/04/12 12:00	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	179 mg/L		10.0	10		10/11/12 02:00	16887-00-6	
Sulfate	283 mg/L		20.0	20		10/12/12 17:44	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		10/05/12 16:26		
Nitrogen, Nitrite	ND mg/L		0.10	1		10/05/12 16:26		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		10/05/12 16:26		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	2.7 mg/L		1.0	1		10/14/12 22:57	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	483 mg/L		20.0	1		10/16/12 16:30	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60130543

Sample: TB-8	Lab ID: 60130543004	Collected: 10/04/12 00:00	Received: 10/05/12 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/08/12 20:08	67-64-1	
Benzene	ND ug/L		1.0	1		10/08/12 20:08	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/08/12 20:08	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		10/08/12 20:08	108-90-7	
Chloroform	ND ug/L		1.0	1		10/08/12 20:08	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/08/12 20:08	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 20:08	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/08/12 20:08	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/08/12 20:08	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/08/12 20:08	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/08/12 20:08	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/08/12 20:08	127-18-4	
Toluene	ND ug/L		1.0	1		10/08/12 20:08	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/08/12 20:08	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/08/12 20:08	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/08/12 20:08	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/08/12 20:08	1330-20-7	
<b>Surrogates</b>								
Bromofluorobenzene (S)	103 %		80-120	1		10/08/12 20:08	460-00-4	
Dibromofluoromethane (S)	105 %		80-120	1		10/08/12 20:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/08/12 20:08	17060-07-0	
Toluene-d8 (S)	104 %		80-120	1		10/08/12 20:08	2037-26-5	
Preservation pH	1.0		0.10	1		10/08/12 20:08		

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: AIR/15908 Analysis Method: RSK 175  
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE  
Associated Lab Samples: 60130543001, 60130543002, 60130543003

METHOD BLANK: 1304774 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/09/12 11:26	
Ethene	ug/L	ND	6.2	10/09/12 11:26	
Methane	ug/L	ND	6.6	10/09/12 11:26	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1304775 1304776

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	102	102	89	90	70-130	.2	30	
Ethene	ug/L	106	95.3	95.4	90	90	70-130	.1	30	
Methane	ug/L	60.7	55.6	55.6	92	92	70-130	.09	30	

SAMPLE DUPLICATE: 1306728

Parameter	Units	10207839001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	2950	3190	8	30	

SAMPLE DUPLICATE: 1306729

Parameter	Units	92134095005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	ND	ND		30	

SAMPLE DUPLICATE: 1306730

Parameter	Units	60130543001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	224	284	24	30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: MPPR/19867 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60130543001, 60130543002, 60130543003

METHOD BLANK: 1075676 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/11/12 11:59	
Manganese	ug/L	ND	5.0	10/11/12 11:59	

LABORATORY CONTROL SAMPLE: 1075677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9300	93	80-120	
Manganese	ug/L	1000	961	96	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1075678 1075679

Parameter	Units	60130592001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Iron	ug/L	1020	10000	10000	10300	11000	93	100	75-125	7	20	
Manganese	ug/L	142	1000	1000	1080	1080	94	94	75-125	0	20	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: MSV/49083 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60130543001, 60130543002, 60130543003, 60130543004

METHOD BLANK: 1075740 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003, 60130543004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/08/12 19:07	
1,2-Dichloroethane	ug/L	ND	1.0	10/08/12 19:07	
Acetone	ug/L	ND	10.0	10/08/12 19:07	
Benzene	ug/L	ND	1.0	10/08/12 19:07	
Carbon disulfide	ug/L	ND	5.0	10/08/12 19:07	
Chlorobenzene	ug/L	ND	1.0	10/08/12 19:07	
Chloroform	ug/L	ND	1.0	10/08/12 19:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/08/12 19:07	
Ethylbenzene	ug/L	ND	1.0	10/08/12 19:07	
Iodomethane	ug/L	ND	10.0	10/08/12 19:07	
Methylene chloride	ug/L	ND	1.0	10/08/12 19:07	
Tetrachloroethene	ug/L	ND	1.0	10/08/12 19:07	
Toluene	ug/L	ND	1.0	10/08/12 19:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/08/12 19:07	
Trichloroethene	ug/L	ND	1.0	10/08/12 19:07	
Vinyl chloride	ug/L	ND	1.0	10/08/12 19:07	
Xylene (Total)	ug/L	ND	3.0	10/08/12 19:07	
1,2-Dichloroethane-d4 (S)	%	107	80-120	10/08/12 19:07	
4-Bromofluorobenzene (S)	%	100	80-120	10/08/12 19:07	
Dibromofluoromethane (S)	%	100	80-120	10/08/12 19:07	
Toluene-d8 (S)	%	101	80-120	10/08/12 19:07	

LABORATORY CONTROL SAMPLE: 1075741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.2	91	76-120	
1,2-Dichloroethane	ug/L	20	17.9	89	72-123	
Acetone	ug/L	100	91.3	91	40-160	
Benzene	ug/L	20	17.2	86	74-123	
Carbon disulfide	ug/L	20	17.1	86	67-135	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroform	ug/L	20	18.6	93	77-120	
cis-1,2-Dichloroethene	ug/L	20	17.8	89	70-120	
Ethylbenzene	ug/L	20	20.3	101	76-123	
Iodomethane	ug/L	20	15.9	80	40-160	
Methylene chloride	ug/L	20	17.7	89	72-127	
Tetrachloroethene	ug/L	20	18.9	95	78-121	
Toluene	ug/L	20	20.3	101	75-123	
trans-1,2-Dichloroethene	ug/L	20	18.9	94	80-129	
Trichloroethene	ug/L	20	17.1	85	74-120	
Vinyl chloride	ug/L	20	19.9	99	50-140	

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Page 14 of 24

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

LABORATORY CONTROL SAMPLE: 1075741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	61.7	103	76-123	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			99	80-120	
Toluene-d8 (S)	%			107	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: WET/37614 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60130543001, 60130543002, 60130543003

METHOD BLANK: 1077184 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	10/11/12 08:23	

LABORATORY CONTROL SAMPLE: 1077185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	472	94	90-110	

SAMPLE DUPLICATE: 1077186

Parameter	Units	60130294003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	347	348	1	9	

SAMPLE DUPLICATE: 1077187

Parameter	Units	60130543002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	433	431	0	9	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: WET/37578 Analysis Method: SM 2540C  
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids  
Associated Lab Samples: 60130543001, 60130543002, 60130543003

METHOD BLANK: 1076252 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/09/12 15:59	

SAMPLE DUPLICATE: 1076253

Parameter	Units	60130543001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	973	976	0	17	

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Page 17 of 24

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: WET/37547 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60130543001, 60130543002, 60130543003

SAMPLE DUPLICATE: 1075700

Parameter	Units	60130316001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.2	6.2	0	5	H6

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch:	WET/37571	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples: 60130543001, 60130543002, 60130543003			

METHOD BLANK: 1075977 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/09/12 13:25	

LABORATORY CONTROL SAMPLE: 1075978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.46	92	80-120	

MATRIX SPIKE SAMPLE: 1075979

Parameter	Units	60130401001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.43	83	75-125	

SAMPLE DUPLICATE: 1075980

Parameter	Units	60130404001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 1075981

Parameter	Units	60130463001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	.026J		20	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch:	WETA/21981	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60130543001, 60130543002, 60130543003		

METHOD BLANK: 1076499 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/10/12 21:49	
Sulfate	mg/L	ND	1.0	10/10/12 21:49	

METHOD BLANK: 1077279 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/12/12 15:19	
Sulfate	mg/L	ND	1.0	10/12/12 15:19	

LABORATORY CONTROL SAMPLE: 1076500

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	90	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

LABORATORY CONTROL SAMPLE: 1077280

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE SAMPLE: 1076501

Parameter	Units	60130194001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	136	50	185	98	64-118	
Sulfate	mg/L	983	500	1470	98	61-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1076502 1076503

Parameter	Units	60130194002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Chloride	mg/L	136	50	50	188	188	104	103	64-118	0	12	
Sulfate	mg/L	996	500	500	1440	1460	90	93	61-119	1	10	

Date: 10/16/2012 04:57 PM

## REPORT OF LABORATORY ANALYSIS

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Page 20 of 24

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch:	WETA/21922	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples:	60130543001, 60130543002, 60130543003		

METHOD BLANK: 1074332 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/05/12 16:14	
Nitrogen, Nitrite	mg/L	ND	0.10	10/05/12 16:14	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/05/12 16:14	

LABORATORY CONTROL SAMPLE: 1074333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	106	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1074334

Parameter	Units	60130544004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	105	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.41	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1074335

Parameter	Units	60130532001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	19.3	20.0	4	15	
Nitrogen, Nitrite	mg/L	ND	.11J		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	19.3	20.1	4	13	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60130543

QC Batch: WETA/22045 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60130543001, 60130543002, 60130543003

METHOD BLANK: 1079426 Matrix: Water

Associated Lab Samples: 60130543001, 60130543002, 60130543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	10/14/12 19:25	

LABORATORY CONTROL SAMPLE: 1079427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.3	86	80-120	

MATRIX SPIKE SAMPLE: 1079428

Parameter	Units	60129965001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.5	5	9.3	116	80-120	

SAMPLE DUPLICATE: 1079429

Parameter	Units	60129965002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	10.3	10.3	0	25	

## QUALIFIERS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130543

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/49083

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60130543

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60130543001	MW-31B-100412	RSK 175	AIR/15908		
60130543002	VW-2B-100412	RSK 175	AIR/15908		
60130543003	VW-2B-100412-AD	RSK 175	AIR/15908		
60130543001	MW-31B-100412	EPA 3010	MPRP/19867	EPA 6010	ICP/16333
60130543002	VW-2B-100412	EPA 3010	MPRP/19867	EPA 6010	ICP/16333
60130543003	VW-2B-100412-AD	EPA 3010	MPRP/19867	EPA 6010	ICP/16333
60130543001	MW-31B-100412	EPA 5030B/8260	MSV/49083		
60130543002	VW-2B-100412	EPA 5030B/8260	MSV/49083		
60130543003	VW-2B-100412-AD	EPA 5030B/8260	MSV/49083		
60130543004	TB-8	EPA 5030B/8260	MSV/49083		
60130543001	MW-31B-100412	SM 2320B	WET/37614		
60130543002	VW-2B-100412	SM 2320B	WET/37614		
60130543003	VW-2B-100412-AD	SM 2320B	WET/37614		
60130543001	MW-31B-100412	SM 2540C	WET/37578		
60130543002	VW-2B-100412	SM 2540C	WET/37578		
60130543003	VW-2B-100412-AD	SM 2540C	WET/37578		
60130543001	MW-31B-100412	SM 4500-H+B	WET/37547		
60130543002	VW-2B-100412	SM 4500-H+B	WET/37547		
60130543003	VW-2B-100412-AD	SM 4500-H+B	WET/37547		
60130543001	MW-31B-100412	SM 4500-S-2 D	WET/37571		
60130543002	VW-2B-100412	SM 4500-S-2 D	WET/37571		
60130543003	VW-2B-100412-AD	SM 4500-S-2 D	WET/37571		
60130543001	MW-31B-100412	EPA 300.0	WETA/21981		
60130543002	VW-2B-100412	EPA 300.0	WETA/21981		
60130543003	VW-2B-100412-AD	EPA 300.0	WETA/21981		
60130543001	MW-31B-100412	EPA 353.2	WETA/21922		
60130543002	VW-2B-100412	EPA 353.2	WETA/21922		
60130543003	VW-2B-100412-AD	EPA 353.2	WETA/21922		
60130543001	MW-31B-100412	SM 5310C	WETA/22045		
60130543002	VW-2B-100412	SM 5310C	WETA/22045		
60130543003	VW-2B-100412-AD	SM 5310C	WETA/22045		
60130543001	MW-31B-100412	SM 4500-CO2 D	WETA/22081		
60130543002	VW-2B-100412	SM 4500-CO2 D	WETA/22081		
60130543003	VW-2B-100412-AD	SM 4500-CO2 D	WETA/22081		



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information

Company: Environmental Operations

Address: 1530 S. Second St. Ste 200

St. Louis, MO 63104

Email To: larryr@environmentalops.com

Phone: 314-241-0900 Fax: 314-436-2900

Requested Due Date/TAT:

 Project Number: **NTAT**
**Section B**

Required Project Information:

Report To: Larry Rosen

Copy To:

Purchase Order No:

Project Name: Solutia Groundwater

 Project Number: **2950**
**Section C**

Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager:

Pace Froute #:

Page: \_\_\_\_\_ of \_\_\_\_\_

**REGULATORY AGENCY**
 NPDES    GROUND WATER    DRINKING WATER

 UST    RCRA    OTHER    POTW

 Site Location: **MO**

 STATE: **MO**
**Requested Analysis Filtered (Y/N)**

ITEM #	Section D Required Client Information  <b>SAMPLE ID</b> (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.	
					DATE	TIME	DATE	TIME			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH + Zn	Na <sub>2</sub> SO <sub>4</sub>	Methanol	Other			
1	MW-31B-100412-BPZU	WT G	1A635		10/04	1130			941131	18P3N	X X X	X X X	X X X	X X X	X X X	X X X	1B132	10-4 3D644 3V644 CW1		
2	VW-2B-100412	WT G			10/04	1030			941131		X X X	X X X	X X X	X X X	X X X	X X X			C2	
3	VW-2B-100412-AD	WT G			10/04	1000			941131		X X X	X X X	X X X	X X X	X X X	X X X			A3	
4	7B-8	WT G			LAB LAB						X									CW9
5		WT G																		
6		WT G																		
7		WT G																		
8		WT G																		
9		WT G																		
10		WT G																		
11		WT G																		
12		WT G																		

**ADDITIONAL COMMENTS**
**RELINQUISHED BY / AFFILIATION**

DATE

TIME

**ACCEPTED BY / AFFILIATION**

DATE

TIME

**SAMPLE CONDITIONS**

 10/04 1000 *PJL* 10/5/12 0815 4.2 Y Y Y

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER:

*Derek Bundab*

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

10/10/12

Temp in °C

Received on (ca) (Y/N)

Custody Sealed Cooler (Y/N)

Samples Inact (Y/N)



## Sample Condition Upon Receipt

Client Name: Env OP Project # 60130543

Courier:  FedEx  UPS  USPS  Client  Commercial  Pace  Other PWOK Optional  
 Tracking #: \_\_\_\_\_ Pace Shipping Label Used?  Yes  No

Custody Seal on Cooler/Box Present:  Yes  No Seals intact:  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Other 2P16

Thermometer Used: 1-191 Type of Ice: Wet Blue None  Samples on ice, cooling process has begun

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 10/10/12

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. <u>10/10/12</u>
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>5/10 - no 3</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix:	<u>WT</u>	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased): <u>091012-3</u>		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State: <u>NC</u>

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 10/5/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

November 05, 2012

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60131722

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature of Jamie Church.

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 26

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

---

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nevada Certification #: MN\_00064  
Nebraska Certification #: Pace  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2

## REPORT OF LABORATORY ANALYSIS

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Page 2 of 26



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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60131722001	MW-24A	Water	10/22/12 12:05	10/23/12 07:35
60131722002	MW-24B	Water	10/22/12 13:13	10/23/12 07:35
60131722003	TB-9	Water	10/22/12 00:00	10/23/12 07:35

## REPORT OF LABORATORY ANALYSIS

Page 3 of 26

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60131722

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60131722001	<b>MW-24A</b>	RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	PRG, RNS	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	NDL	1	PASI-K
		SM 4500-S-2 D	SRM1	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	SRM1	3	PASI-K
		SM 5310C	JML	1	PASI-K
60131722002	<b>MW-24B</b>	SM 4500-CO2 D	JML	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	SMW	2	PASI-K
		EPA 5030B/8260	PRG, RNS	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	FJF	1	PASI-K
		SM 4500-H+B	NDL	1	PASI-K
		SM 4500-S-2 D	SRM1	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	SRM1	3	PASI-K
60131722003	<b>TB-9</b>	SM 5310C	JML	1	PASI-K
		SM 4500-CO2 D	JML	1	PASI-K
		EPA 5030B/8260	PRG, RNS	22	PASI-K

### REPORT OF LABORATORY ANALYSIS

Page 4 of 26

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Lenexa, KS 66219  
(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60131722

Sample: MW-24A	Lab ID: 60131722001	Collected: 10/22/12 12:05	Received: 10/23/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/26/12 10:52	74-84-0	
Ethene	ND ug/L		6.2	1		10/26/12 10:52	74-85-1	
Methane	2220 ug/L		6.6	1		10/26/12 10:52	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	37900 ug/L		250	5	10/27/12 14:45	10/29/12 19:35	7439-89-6	
Manganese	2870 ug/L		25.0	5	10/27/12 14:45	10/29/12 19:35	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		100	10		10/27/12 15:23	67-64-1	
Benzene	5480 ug/L		50.0	50		10/24/12 12:05	71-43-2	
Carbon disulfide	ND ug/L		50.0	10		10/27/12 15:23	75-15-0	
Chlorobenzene	1090 ug/L		10.0	10		10/27/12 15:23	108-90-7	
Chloroform	41.0 ug/L		10.0	10		10/27/12 15:23	67-66-3	
1,2-Dichloroethane	ND ug/L		10.0	10		10/27/12 15:23	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		10.0	10		10/27/12 15:23	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		10.0	10		10/27/12 15:23	156-60-5	
Phenylbenzene	59.3 ug/L		10.0	10		10/27/12 15:23	100-41-4	
Dimethylane	ND ug/L		100	10		10/27/12 15:23	74-88-4	
Methylene chloride	ND ug/L		10.0	10		10/27/12 15:23	75-09-2	
Tetrachloroethene	ND ug/L		10.0	10		10/27/12 15:23	127-18-4	
Toluene	58.4 ug/L		10.0	10		10/27/12 15:23	108-88-3	
1,1,1-Trichloroethane	ND ug/L		10.0	10		10/27/12 15:23	71-55-6	
Trichloroethene	ND ug/L		10.0	10		10/27/12 15:23	79-01-6	
Vinyl chloride	ND ug/L		10.0	10		10/27/12 15:23	75-01-4	
Xylene (Total)	83.5 ug/L		30.0	10		10/27/12 15:23	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	10		10/27/12 15:23	460-00-4	
Dibromofluoromethane (S)	94 %		80-120	10		10/27/12 15:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	100 %		80-120	10		10/27/12 15:23	17060-07-0	
Toluene-d8 (S)	101 %		80-120	10		10/27/12 15:23	2037-26-5	
Preservation pH	1.0		0.10	10		10/27/12 15:23		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	603 mg/L		20.0	1		10/25/12 09:18		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	846 mg/L		5.0	1		10/29/12 16:19		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		10/24/12 17:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/26/12 18:30	18496-25-8	

Date: 11/05/2012 01:44 PM

## REPORT OF LABORATORY ANALYSIS

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Page 5 of 26

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Sample: MW-24A	Lab ID: 60131722001	Collected: 10/22/12 12:05	Received: 10/23/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	88.9	mg/L	10.0	10		10/26/12 13:52	16887-00-6	
Sulfate	ND	mg/L	1.0	1		10/27/12 19:31	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/23/12 18:06		
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/23/12 18:06		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/23/12 18:06		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	17.5	mg/L	1.0	1		11/03/12 10:32	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	722	mg/L	20.0	1		11/01/12 16:40	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Sample: MW-24B	Lab ID: 60131722002	Collected: 10/22/12 13:13	Received: 10/23/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		10/26/12 12:15	74-84-0	
Ethene	ND ug/L		6.2	1		10/26/12 12:15	74-85-1	
Methane	936 ug/L		6.6	1		10/26/12 12:15	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	22200 ug/L		250	5	10/27/12 14:45	10/29/12 19:45	7439-89-6	
Manganese	622 ug/L		25.0	5	10/27/12 14:45	10/29/12 19:45	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		1000	100		10/24/12 12:20	67-64-1	
Benzene	18900 ug/L		100	100		10/24/12 12:20	71-43-2	
Carbon disulfide	ND ug/L		500	100		10/24/12 12:20	75-15-0	
Chlorobenzene	83300 ug/L		1000	1000		10/26/12 10:22	108-90-7	
Chloroform	ND ug/L		100	100		10/24/12 12:20	67-66-3	
1,2-Dichloroethane	ND ug/L		100	100		10/24/12 12:20	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		100	100		10/24/12 12:20	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		100	100		10/24/12 12:20	156-60-5	
methylbenzene	ND ug/L		100	100		10/24/12 12:20	100-41-4	
Dimethane	ND ug/L		1000	100		10/24/12 12:20	74-88-4	
Methylene chloride	ND ug/L		100	100		10/24/12 12:20	75-09-2	
Tetrachloroethene	ND ug/L		100	100		10/24/12 12:20	127-18-4	
Toluene	1110 ug/L		100	100		10/24/12 12:20	108-88-3	
1,1,1-Trichloroethane	ND ug/L		100	100		10/24/12 12:20	71-55-6	
Trichloroethene	ND ug/L		100	100		10/24/12 12:20	79-01-6	
Vinyl chloride	ND ug/L		100	100		10/24/12 12:20	75-01-4	
Xylene (Total)	ND ug/L		300	100		10/24/12 12:20	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	97 %		80-120	100		10/24/12 12:20	460-00-4	
Dibromofluoromethane (S)	94 %		80-120	100		10/24/12 12:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		80-120	100		10/24/12 12:20	17060-07-0	
Toluene-d8 (S)	93 %		80-120	100		10/24/12 12:20	2037-26-5	
Preservation pH	1.0		0.10	100		10/24/12 12:20		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	693 mg/L		20.0	1		10/25/12 09:25		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1140 mg/L		5.0	1		10/29/12 16:20		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1 Std. Units		0.10	1		10/24/12 17:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		10/26/12 18:30	18496-25-8	

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## REPORT OF LABORATORY ANALYSIS

Page 7 of 26

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Sample: MW-24B	Lab ID: 60131722002	Collected: 10/22/12 13:13	Received: 10/23/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	208	mg/L	20.0	20		10/27/12 20:03	16887-00-6	
Sulfate	26.2	mg/L	2.0	2		10/27/12 19:47	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		10/23/12 18:07		
Nitrogen, Nitrite	ND	mg/L	0.10	1		10/23/12 18:07		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		10/23/12 18:07		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	40.9	mg/L	1.0	1		11/03/12 10:46	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	720	mg/L	20.0	1		11/01/12 16:40	124-38-9	



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Sample: TB-9	Lab ID: 60131722003	Collected: 10/22/12 00:00	Received: 10/23/12 07:35	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/24/12 12:35	67-64-1	
Benzene	ND ug/L		1.0	1		10/24/12 12:35	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		10/24/12 12:35	75-15-0	
Chlorobenzene	2.1 ug/L		1.0	1		10/25/12 18:50	108-90-7	1e,C8
Chloroform	ND ug/L		1.0	1		10/24/12 12:35	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/24/12 12:35	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/24/12 12:35	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/24/12 12:35	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		10/24/12 12:35	100-41-4	
Iodomethane	ND ug/L		10.0	1		10/24/12 12:35	74-88-4	
Methylene chloride	ND ug/L		1.0	1		10/24/12 12:35	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		10/24/12 12:35	127-18-4	
Toluene	ND ug/L		1.0	1		10/24/12 12:35	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/24/12 12:35	71-55-6	
Trichloroethene	ND ug/L		1.0	1		10/24/12 12:35	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		10/24/12 12:35	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/24/12 12:35	1330-20-7	
<b>Surrogates</b>								
Bromofluorobenzene (S)	99 %		80-120	1		10/24/12 12:35	460-00-4	
Dibromofluoromethane (S)	94 %		80-120	1		10/24/12 12:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		80-120	1		10/24/12 12:35	17060-07-0	
Toluene-d8 (S)	93 %		80-120	1		10/24/12 12:35	2037-26-5	
Preservation pH	1.0		0.10	1		10/24/12 12:35		

Date: 11/05/2012 01:44 PM

## REPORT OF LABORATORY ANALYSIS

Page 9 of 26

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: AIR/16038

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1319708

Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	10/26/12 08:33	
Ethene	ug/L	ND	6.2	10/26/12 08:33	
Methane	ug/L	ND	6.6	10/26/12 08:33	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1319709

1319710

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	103	105	91	93	70-130	2	30	
Ethene	ug/L	106	96.4	98.4	91	93	70-130	2	30	
Methane	ug/L	60.7	56.1	57.0	93	94	70-130	2	30	

SAMPLE DUPLICATE: 1320079

Parameter	Units	60131737001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	1J		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	7460	5830	24	30	

SAMPLE DUPLICATE: 1320099

Parameter	Units	60131722001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	3.7J		30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	2220	1710	26	30	

SAMPLE DUPLICATE: 1321552

Parameter	Units	92136235001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	241	213	13	30	
Ethene	ug/L	ND	ND		30	
Methane	ug/L	5610	4970	12	30	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: MPRP/20214 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1088705 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	10/29/12 19:15	
Manganese	ug/L	ND	5.0	10/29/12 19:15	

LABORATORY CONTROL SAMPLE: 1088706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	9040	90	80-120	
Manganese	ug/L	1000	1040	104	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1088707 1088708

Parameter	Units	60131637001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	1380	10000	10000	10200	10200	88	89	75-125	0	20	
Manganese	ug/L	1090	1000	1000	2060	2080	97	99	75-125	1	20	

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**REPORT OF LABORATORY ANALYSIS**

Page 11 of 26

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: MSV/49502 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60131722001, 60131722002, 60131722003

METHOD BLANK: 1085858

Matrix: Water

Associated Lab Samples: 60131722001, 60131722002, 60131722003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/24/12 10:13	
1,2-Dichloroethane	ug/L	ND	1.0	10/24/12 10:13	
Acetone	ug/L	ND	10.0	10/24/12 10:13	
Benzene	ug/L	ND	1.0	10/24/12 10:13	
Carbon disulfide	ug/L	ND	5.0	10/24/12 10:13	
Chloroform	ug/L	ND	1.0	10/24/12 10:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/24/12 10:13	
Ethylbenzene	ug/L	ND	1.0	10/24/12 10:13	
Iodomethane	ug/L	ND	10.0	10/24/12 10:13	
Methylene chloride	ug/L	ND	1.0	10/24/12 10:13	
Tetrachloroethene	ug/L	ND	1.0	10/24/12 10:13	
Toluene	ug/L	ND	1.0	10/24/12 10:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/24/12 10:13	
Trichloroethene	ug/L	ND	1.0	10/24/12 10:13	
Vinyl chloride	ug/L	ND	1.0	10/24/12 10:13	
Xylene (Total)	ug/L	ND	3.0	10/24/12 10:13	
1,2-Dichloroethane-d4 (S)	%	106	80-120	10/24/12 10:13	
4-Bromofluorobenzene (S)	%	101	80-120	10/24/12 10:13	
Dibromofluoromethane (S)	%	95	80-120	10/24/12 10:13	
Toluene-d8 (S)	%	92	80-120	10/24/12 10:13	

LABORATORY CONTROL SAMPLE: 1085859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.6	108	76-120	
1,2-Dichloroethane	ug/L	20	21.9	109	72-123	
Acetone	ug/L	100	109	109	40-160	
Benzene	ug/L	20	21.0	105	74-123	
Carbon disulfide	ug/L	20	17.4	87	67-135	
Chloroform	ug/L	20	20.8	104	77-120	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	70-120	
Ethylbenzene	ug/L	20	20.0	100	76-123	
Iodomethane	ug/L	20	19.4	97	40-160	
Methylene chloride	ug/L	20	21.3	106	72-127	
Tetrachloroethene	ug/L	20	21.7	108	78-121	
Toluene	ug/L	20	20.4	102	75-123	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	80-129	
Trichloroethene	ug/L	20	21.3	107	74-120	
Vinyl chloride	ug/L	20	19.2	96	50-140	
Xylene (Total)	ug/L	60	61.6	103	76-123	
1,2-Dichloroethane-d4 (S)	%			104	80-120	

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Page 12 of 26



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

LABORATORY CONTROL SAMPLE: 1085859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			99	80-120	
Dibromofluoromethane (S)	%			91	80-120	
Toluene-d8 (S)	%			89	80-120	

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## REPORT OF LABORATORY ANALYSIS

Page 13 of 26

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: MSV/49549 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60131722003

METHOD BLANK: 1086867

Matrix: Water

Associated Lab Samples: 60131722003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/L	ND	1.0	10/25/12 15:11	
1,2-Dichloroethane-d4 (S)	%	102	80-120	10/25/12 15:11	
4-Bromofluorobenzene (S)	%	101	80-120	10/25/12 15:11	
Dibromofluoromethane (S)	%	98	80-120	10/25/12 15:11	
Toluene-d8 (S)	%	101	80-120	10/25/12 15:11	

LABORATORY CONTROL SAMPLE: 1086868

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	21.1	105	80-120	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60131722

QC Batch: MSV/49580	Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260	Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60131722002	

METHOD BLANK: 1087565                                   Matrix: Water

Associated Lab Samples: 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorobenzene	ug/L	ND	1.0	10/26/12 09:04	
1,2-Dichloroethane-d4 (S)	%	97	80-120	10/26/12 09:04	
4-Bromofluorobenzene (S)	%	100	80-120	10/26/12 09:04	
Dibromofluoromethane (S)	%	99	80-120	10/26/12 09:04	
Toluene-d8 (S)	%	101	80-120	10/26/12 09:04	

LABORATORY CONTROL SAMPLE: 1087566

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	20.1	101	80-120	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Dibromofluoromethane (S)	%			104	80-120	
Toluene-d8 (S)	%			96	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: MSV/49631

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60131722001

METHOD BLANK: 1088577

Matrix: Water

Associated Lab Samples: 60131722001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/27/12 15:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/27/12 15:08	
Acetone	ug/L	ND	10.0	10/27/12 15:08	
Carbon disulfide	ug/L	ND	5.0	10/27/12 15:08	
Chlorobenzene	ug/L	ND	1.0	10/27/12 15:08	
Chloroform	ug/L	ND	1.0	10/27/12 15:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/27/12 15:08	
Ethylbenzene	ug/L	ND	1.0	10/27/12 15:08	
Iodomethane	ug/L	ND	10.0	10/27/12 15:08	
Methylene chloride	ug/L	ND	1.0	10/27/12 15:08	
Tetrachloroethene	ug/L	ND	1.0	10/27/12 15:08	
Toluene	ug/L	ND	1.0	10/27/12 15:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/27/12 15:08	
Trichloroethene	ug/L	ND	1.0	10/27/12 15:08	
Vinyl chloride	ug/L	ND	1.0	10/27/12 15:08	
Xylene (Total)	ug/L	ND	3.0	10/27/12 15:08	
1,2-Dichloroethane-d4 (S)	%	97	80-120	10/27/12 15:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/27/12 15:08	
Dibromofluoromethane (S)	%	94	80-120	10/27/12 15:08	
Toluene-d8 (S)	%	102	80-120	10/27/12 15:08	

LABORATORY CONTROL SAMPLE: 1088578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.1	95	76-120	
1,2-Dichloroethane	ug/L	20	19.4	97	72-123	
Acetone	ug/L	100	94.2	94	40-160	
Carbon disulfide	ug/L	20	16.9	84	67-135	
Chlorobenzene	ug/L	20	21.8	109	80-120	
Chloroform	ug/L	20	18.2	91	77-120	
cis-1,2-Dichloroethene	ug/L	20	17.6	88	70-120	
Ethylbenzene	ug/L	20	20.4	102	76-123	
Iodomethane	ug/L	20	16.5	83	40-160	
Methylene chloride	ug/L	20	19.2	96	72-127	
Tetrachloroethene	ug/L	20	21.2	106	78-121	
Toluene	ug/L	20	21.1	106	75-123	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	80-129	
Trichloroethene	ug/L	20	18.5	93	74-120	
Vinyl chloride	ug/L	20	18.5	93	50-140	
Xylene (Total)	ug/L	60	63.5	106	76-123	
1,2-Dichloroethane-d4 (S)	%			98	80-120	

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**REPORT OF LABORATORY ANALYSIS**

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Page 16 of 26

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

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LABORATORY CONTROL SAMPLE: 1088578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			88	80-120	
Toluene-d8 (S)	%			104	80-120	



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WET/37879 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1086447 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	10/25/12 08:58	

LABORATORY CONTROL SAMPLE: 1086448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	480	96	90-110	

SAMPLE DUPLICATE: 1086449

Parameter	Units	60131827001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	109	110	1	9	

SAMPLE DUPLICATE: 1086450

Parameter	Units	60131713014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	99.1	101	2	9	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WET/37948 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1089384 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/29/12 16:17	

SAMPLE DUPLICATE: 1089385

Parameter	Units	60131812002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4150	4120	1	17	

SAMPLE DUPLICATE: 1089386

Parameter	Units	60131910001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	314	311	1	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WET/37863 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60131722001, 60131722002

SAMPLE DUPLICATE: 1085961

Parameter	Units	60131722001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

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## REPORT OF LABORATORY ANALYSIS

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Page 20 of 26

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch:	WET/37926	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples: 60131722001, 60131722002			

METHOD BLANK: 1087801 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	10/26/12 18:28	

LABORATORY CONTROL SAMPLE: 1087802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	1	1.1	108	80-120	

MATRIX SPIKE SAMPLE: 1087803

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	60131941002	ND	1	0.34	33	75-125 M1

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WETA/22216 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1087575 Matrix: Water

Associated Lab Samples: 60131722001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/26/12 11:45	

METHOD BLANK: 1088386 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	10/27/12 17:24	
Sulfate	mg/L	ND	1.0	10/27/12 17:24	

LABORATORY CONTROL SAMPLE: 1087576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 1088387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE SAMPLE: 1087577

Parameter	Units	60131463001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	6.3	5	10.8	89	64-118	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1087578 1087579

Parameter	Units	60131722002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Sulfate	mg/L	26.2	10	10	35.1	35.1	88	88	61-119	0	10	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WETA/22169 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1085542 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/23/12 17:58	
Nitrogen, Nitrite	mg/L	ND	0.10	10/23/12 17:58	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	10/23/12 17:58	

LABORATORY CONTROL SAMPLE: 1085543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	105	90-110	
Nitrogen, Nitrite	mg/L	.4	0.40	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 1085544

Parameter	Units	60131737001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.7	109	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.43	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.2	109	90-110	

SAMPLE DUPLICATE: 1085545

Parameter	Units	60131737002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	ND		13	

Date: 11/05/2012 01:44 PM

**REPORT OF LABORATORY ANALYSIS**

Page 23 of 26

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

QC Batch: WETA/22339 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60131722001, 60131722002

METHOD BLANK: 1092730 Matrix: Water

Associated Lab Samples: 60131722001, 60131722002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	11/03/12 08:25	

LABORATORY CONTROL SAMPLE: 1092731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	4.7	95	80-120	

MATRIX SPIKE SAMPLE: 1092732

Parameter	Units	60131529001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	4.0	5	9.1	101	80-120	

SAMPLE DUPLICATE: 1092733

Parameter	Units	60131529002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	ND	.24J		25	

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/49549

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/49580

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/49631

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- 1e Re-extraction or re-analysis could not be performed due to insufficient sample amount. Sample had been previously analyzed with a similar result of expected carry-over.
- C8 Result may be biased high due to carryover from previously analyzed sample.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60131722

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60131722001	MW-24A	RSK 175	AIR/16038		
60131722002	MW-24B	RSK 175	AIR/16038		
60131722001	MW-24A	EPA 3010	MPRP/20214	EPA 6010	ICP/16533
60131722002	MW-24B	EPA 3010	MPRP/20214	EPA 6010	ICP/16533
60131722001	MW-24A	EPA 5030B/8260	MSV/49502		
60131722001	MW-24A	EPA 5030B/8260	MSV/49631		
60131722002	MW-24B	EPA 5030B/8260	MSV/49502		
60131722002	MW-24B	EPA 5030B/8260	MSV/49580		
60131722003	TB-9	EPA 5030B/8260	MSV/49502		
60131722003	TB-9	EPA 5030B/8260	MSV/49549		
60131722001	MW-24A	SM 2320B	WET/37879		
60131722002	MW-24B	SM 2320B	WET/37879		
60131722001	MW-24A	SM 2540C	WET/37948		
60131722002	MW-24B	SM 2540C	WET/37948		
60131722001	MW-24A	SM 4500-H+B	WET/37863		
60131722002	MW-24B	SM 4500-H+B	WET/37863		
60131722001	MW-24A	SM 4500-S-2 D	WET/37926		
60131722002	MW-24B	SM 4500-S-2 D	WET/37926		
60131722001	MW-24A	EPA 300.0	WETA/22216		
60131722002	MW-24B	EPA 300.0	WETA/22216		
60131722001	MW-24A	EPA 353.2	WETA/22169		
60131722002	MW-24B	EPA 353.2	WETA/22169		
60131722001	MW-24A	SM 5310C	WETA/22339		
60131722002	MW-24B	SM 5310C	WETA/22339		
60131722001	MW-24A	SM 4500-CO2 D	WETA/22304		
60131722002	MW-24B	SM 4500-CO2 D	WETA/22304		

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page: / of /																																																															
Company: Environmental Operations	Report To: Larry Rosen	Attention:		Company Name:	REGULATORY AGENCY																																																																
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104	Copy To:	Address:			<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER																																																														
Email To: larryr@environmentalops.com	Purchase Order No.:	Pace Quote Reference:			<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER POTW																																																														
Phone: 314-241-0900	Fax: 314-436-2900	Pace Project Manager: Jamie Slade		Site Location:	STATE: MO																																																																
Requested Due Date/TAT: NTAT	Project Number: 2950	Pace Profile #:																																																																			
<b>Requested Analysis Filtered (Y/N)</b>																																																																					
ITEM #	Section D Required Client Information	SAMPLE ID (A-Z, 0-9, -) Sample IDs MUST BE UNIQUE		Valid Matrix Codes <small>MATRIX CODE</small> <small>DW = DRINKING WATER, WT = WATER, WW = WASTE WATER, P = PRODUCT, SL = SOIL/SOUD, OL = OIL, WP = WIPE, AR = AIR, OT = OTHER, TS = TISSUE</small>	MATRIX CODE <small>(see valid codes to left)</small> <small>G=GRAB C=COMP</small>	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Y/N	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.																																																							
		DATE	TIME			DATE	TIME																																																														
1	MW-24A	300PM 345AM	WT	G		10/22	12:05	9	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	X	X	8260 VOCs																																																								
2	MW-34B	4 4	WT	G		10/23	13:43	9	HNO <sub>3</sub>	HCl	X	X	6010 Fe, Mn																																																								
3	TB-9	100AM	WT	G		10/22	0:00	1	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	X	X	TOC																																																								
4			WT	G					Other				Carbon Dioxide																																																								
5			WT	G									Sulfate/Chloride																																																								
6			WT	G									Nitrate																																																								
7			WT	G									Methane/Ethane/Ethene																																																								
8			WT	G									8141 Alachlor																																																								
9			WT	G																																																																	
10			WT	G																																																																	
11			WT	G																																																																	
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS																																																											
<i>Larry Rosen</i>		<i>Larry Rosen</i>		10/22	14:00	<i>Larry Rosen</i>		10/23/12	07:35	0.2	Y	V	Y																																																								
<table border="1"> <tr> <td colspan="13">SAMPLER NAME AND SIGNATURE</td> <td rowspan="2">Temp in °C</td> </tr> <tr> <td colspan="13">PRINT Name of SAMPLER: <i>John Tenney</i></td> <td rowspan="2">Received on site (Y/N)</td> </tr> <tr> <td colspan="13">SIGNATURE of SAMPLER: <i>John Tenney</i></td> <td rowspan="2">Custody Sealed Cooler (Y/N)</td> </tr> <tr> <td colspan="13">DATE Signed (MM/DD/YY): 10/22/12</td> <td rowspan="2">Samples intact (Y/N)</td> </tr> </table>														SAMPLER NAME AND SIGNATURE													Temp in °C	PRINT Name of SAMPLER: <i>John Tenney</i>													Received on site (Y/N)	SIGNATURE of SAMPLER: <i>John Tenney</i>													Custody Sealed Cooler (Y/N)	DATE Signed (MM/DD/YY): 10/22/12													Samples intact (Y/N)
SAMPLER NAME AND SIGNATURE													Temp in °C																																																								
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SIGNATURE of SAMPLER: <i>John Tenney</i>													Custody Sealed Cooler (Y/N)																																																								
DATE Signed (MM/DD/YY): 10/22/12														Samples intact (Y/N)																																																							



## Sample Condition Upon Receipt

WO# : 60131722



60131722

Client Name:	Environmental Ops.	Project #:		Optional
Courier:	Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other <input checked="" type="checkbox"/> N/A			
Tracking #:	Pace Shipping Label Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			Proj Due Date:
Custody Seal on Cooler/Box Present:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Seals intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Proj Name:
Packing Material:	Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> Foam <input type="checkbox"/> None <input type="checkbox"/> Other <input checked="" type="checkbox"/> ZPLC			
Thermometer Used:	T-191 T-194	Type of Ice:	Wet <input checked="" type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/>	Samples received on ice, cooling process has begun. (circle one)
Cooler Temperature:	0.2	Date and initials of person examining contents: 10/23/12 BA		
Temperature should be above freezing to 6°C				
Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.		
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.		
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.		
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.		
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.		
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. NO <sub>2</sub>		
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.		
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.		
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.		
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.		
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.		
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.		
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Includes date/time/ID/analyses	Matrix: WT	13.		
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.		
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed	Lot # of added preservative	
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Pace Trip Blank lot # (if purchased): 011012-3	15.			
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.		
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:		

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 10/23/12

**APPENDIX B**  
**Second Quarter Laboratory Analytical Reports**



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

February 18, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLTIA GROUNDWATER  
Pace Project No.: 60138104

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 06, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature of Jamie Church.

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 34

PacePackage P. 1 of 45

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nebraska Certification #: Pace  
 Nevada Certification #: MN\_00064  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
 Florida/NELAP Certification #: E87948  
 Illinois Certification #: 200050  
 Kentucky Certification #: 82  
 Louisiana Certification #: 04168  
 Minnesota Certification #: 055-999-334

New York Certification #: 11888  
 North Dakota Certification #: R-150  
 South Carolina Certification #: 83006001  
 US Dept of Agriculture #: S-76505  
 Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2  
 Illinois Certification #: 003097

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Lenexa, KS 66219  
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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138104

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138104001	MW-19-020413	Water	02/04/13 07:50	02/06/13 07:30
60138104002	GM-1-020413	Water	02/04/13 08:55	02/06/13 07:30
60138104003	GM-2-020413	Water	02/04/13 10:13	02/06/13 07:30
60138104004	MW-4-020413	Water	02/04/13 11:22	02/06/13 07:30
60138104005	TB-1-020413	Water	02/04/13 00:00	02/06/13 07:30

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Page 3 of 34

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138104001	MW-19-020413	RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138104002	GM-1-020413	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK, PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60138104003	GM-2-020413	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK, PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138104004	MW-4-020413	EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138104

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138104005	TB-1-020413	SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

Page 5 of 34

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Sample: MW-19-020413	Lab ID: 60138104001	Collected: 02/04/13 07:50	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	67.0	ug/L	6.2	1		02/11/13 13:03	74-84-0	
Ethene	ND	ug/L	6.2	1		02/11/13 13:03	74-85-1	
Methane	1760	ug/L	6.6	1		02/11/13 13:03	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	17100	ug/L	50.0	1	02/07/13 11:00	02/08/13 14:49	7439-89-6	
Manganese	4250	ug/L	5.0	1	02/07/13 11:00	02/08/13 14:49	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	500	50		02/06/13 22:49	67-64-1	
Benzene	ND	ug/L	50.0	50		02/06/13 22:49	71-43-2	
Carbon disulfide	ND	ug/L	250	50		02/06/13 22:49	75-15-0	
Chlorobenzene	46500	ug/L	250	250		02/06/13 23:04	108-90-7	
Chloroform	ND	ug/L	50.0	50		02/06/13 22:49	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	50		02/06/13 22:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		02/06/13 22:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	50.0	50		02/06/13 22:49	156-60-5	
Ethylbenzene	ND	ug/L	50.0	50		02/06/13 22:49	100-41-4	
Iodomethane	ND	ug/L	500	50		02/06/13 22:49	74-88-4	
Methylene chloride	ND	ug/L	50.0	50		02/06/13 22:49	75-09-2	
Tetrachloroethene	ND	ug/L	50.0	50		02/06/13 22:49	127-18-4	
Toluene	ND	ug/L	50.0	50		02/06/13 22:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	50.0	50		02/06/13 22:49	71-55-6	
Trichloroethene	ND	ug/L	50.0	50		02/06/13 22:49	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		02/06/13 22:49	75-01-4	
Xylene (Total)	ND	ug/L	150	50		02/06/13 22:49	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100	%	80-120	50		02/06/13 22:49	460-00-4	
Dibromofluoromethane (S)	97	%	80-120	50		02/06/13 22:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	80-120	50		02/06/13 22:49	17060-07-0	
Toluene-d8 (S)	92	%	80-120	50		02/06/13 22:49	2037-26-5	
Preservation pH	1.0		0.10	50		02/06/13 22:49		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	571	mg/L	20.0	1		02/07/13 10:58		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	790	mg/L	5.0	1		02/07/13 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		02/06/13 15:15		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		02/11/13 16:13	18496-25-8	

Date: 02/18/2013 05:39 PM

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Page 6 of 34



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Lenexa, KS 66219  
(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138104

Sample: MW-19-020413	Lab ID: 60138104001	Collected: 02/04/13 07:50	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	104	mg/L	10.0	10		02/08/13 16:03	16887-00-6	
Sulfate	2.7	mg/L	1.0	1		02/08/13 16:55	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/06/13 08:38		H3
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/06/13 08:38		H3
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/06/13 08:38		H3
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	46.6	mg/L	30.0	60		02/11/13 13:15	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	593	mg/L	20.0	1		02/14/13 10:14	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

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Page 7 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Sample: GM-1-020413	Lab ID: 60138104002	Collected: 02/04/13 08:55	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/11/13 13:13	74-84-0	
Ethene	ND ug/L		6.2	1		02/11/13 13:13	74-85-1	
Methane	606 ug/L		6.6	1		02/11/13 13:13	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	20400 ug/L		50.0	1	02/07/13 11:00	02/08/13 14:56	7439-89-6	
Manganese	6340 ug/L		5.0	1	02/07/13 11:00	02/08/13 14:56	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		1000	100		02/14/13 21:07	67-64-1	
Benzene	ND ug/L		100	100		02/14/13 21:07	71-43-2	
Carbon disulfide	ND ug/L		500	100		02/14/13 21:07	75-15-0	
Chlorobenzene	81700 ug/L		1000	1000		02/06/13 23:33	108-90-7	
Chloroform	ND ug/L		100	100		02/14/13 21:07	67-66-3	
1,2-Dichloroethane	ND ug/L		100	100		02/14/13 21:07	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		100	100		02/14/13 21:07	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		100	100		02/14/13 21:07	156-60-5	
Ethylbenzene	ND ug/L		100	100		02/14/13 21:07	100-41-4	
Iodomethane	ND ug/L		1000	100		02/14/13 21:07	74-88-4	
Methylene chloride	ND ug/L		100	100		02/14/13 21:07	75-09-2	
Tetrachloroethene	ND ug/L		100	100		02/14/13 21:07	127-18-4	
Toluene	ND ug/L		100	100		02/14/13 21:07	108-88-3	
1,1,1-Trichloroethane	ND ug/L		100	100		02/14/13 21:07	71-55-6	
Trichloroethene	ND ug/L		100	100		02/14/13 21:07	79-01-6	
Vinyl chloride	ND ug/L		100	100		02/14/13 21:07	75-01-4	
Xylene (Total)	ND ug/L		300	100		02/14/13 21:07	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	100		02/14/13 21:07	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	100		02/14/13 21:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	89 %		80-120	100		02/14/13 21:07	17060-07-0	
Toluene-d8 (S)	99 %		80-120	100		02/14/13 21:07	2037-26-5	
Preservation pH	1.0		0.10	100		02/14/13 21:07		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	617 mg/L		20.0	1		02/07/13 11:05		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	50400 mg/L		5.0	1		02/07/13 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.8 Std. Units		0.10	1		02/06/13 15:15		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/11/13 16:13	18496-25-8	

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Page 8 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138104

Sample: GM-1-020413	Lab ID: 60138104002	Collected: 02/04/13 08:55	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	105	mg/L	10.0	10		02/08/13 17:13	16887-00-6	
Sulfate	100	mg/L	10.0	10		02/08/13 17:13	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/06/13 08:40		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/06/13 08:40		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/06/13 08:40		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	182	mg/L	150	300		02/11/13 15:05	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	563	mg/L	20.0	1		02/14/13 10:14	124-38-9	

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Page 9 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Sample: GM-2-020413	Lab ID: 60138104003	Collected: 02/04/13 10:13	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/11/13 13:24	74-84-0	
Ethene	ND ug/L		6.2	1		02/11/13 13:24	74-85-1	
Methane	35.6 ug/L		6.6	1		02/11/13 13:24	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	4540 ug/L		50.0	1	02/07/13 11:00	02/08/13 14:58	7439-89-6	
Manganese	274 ug/L		5.0	1	02/07/13 11:00	02/08/13 14:58	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	186 ug/L		10.0	1		02/06/13 23:47	67-64-1	
Acetone	ND ug/L		5000	500		02/07/13 17:41	67-64-1	
Benzene	28.0 ug/L		1.0	1		02/06/13 23:47	71-43-2	
Benzene	ND ug/L		500	500		02/07/13 17:41	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/06/13 23:47	75-15-0	
Carbon disulfide	ND ug/L		2500	500		02/07/13 17:41	75-15-0	
Chlorobenzene	85000 ug/L		500	500		02/07/13 17:41	108-90-7	
Chloroform	1.4 ug/L		1.0	1		02/06/13 23:47	67-66-3	
Chloroform	ND ug/L		500	500		02/07/13 17:41	67-66-3	
1,2-Dichloroethane	28.6 ug/L		1.0	1		02/06/13 23:47	107-06-2	
1,2-Dichloroethane	ND ug/L		500	500		02/07/13 17:41	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/06/13 23:47	156-59-2	
cis-1,2-Dichloroethene	ND ug/L		500	500		02/07/13 17:41	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/06/13 23:47	156-60-5	
trans-1,2-Dichloroethene	ND ug/L		500	500		02/07/13 17:41	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/06/13 23:47	100-41-4	
Ethylbenzene	ND ug/L		500	500		02/07/13 17:41	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/06/13 23:47	74-88-4	
Iodomethane	ND ug/L		5000	500		02/07/13 17:41	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/06/13 23:47	75-09-2	
Methylene chloride	ND ug/L		500	500		02/07/13 17:41	75-09-2	
Tetrachloroethene	13.3 ug/L		1.0	1		02/06/13 23:47	127-18-4	
Tetrachloroethene	ND ug/L		500	500		02/07/13 17:41	127-18-4	
Toluene	182 ug/L		1.0	1		02/06/13 23:47	108-88-3	
Toluene	ND ug/L		500	500		02/07/13 17:41	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/06/13 23:47	71-55-6	
1,1,1-Trichloroethane	ND ug/L		500	500		02/07/13 17:41	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/06/13 23:47	79-01-6	
Trichloroethene	ND ug/L		500	500		02/07/13 17:41	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/06/13 23:47	75-01-4	
Vinyl chloride	ND ug/L		500	500		02/07/13 17:41	75-01-4	
Xylene (Total)	ND ug/L		1500	500		02/07/13 17:41	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105 %		80-120	1		02/06/13 23:47	460-00-4	1e
4-Bromofluorobenzene (S)	98 %		80-120	500		02/07/13 17:41	460-00-4	
Dibromofluoromethane (S)	81 %		80-120	1		02/06/13 23:47	1868-53-7	
Dibromofluoromethane (S)	98 %		80-120	500		02/07/13 17:41	1868-53-7	

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## REPORT OF LABORATORY ANALYSIS

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Page 10 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138104

Sample: GM-2-020413	Lab ID: 60138104003	Collected: 02/04/13 10:13	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
<b>Surrogates</b>								
1,2-Dichloroethane-d4 (S)	116 %		80-120	1		02/06/13 23:47	17060-07-0	
1,2-Dichloroethane-d4 (S)	92 %		80-120	500		02/07/13 17:41	17060-07-0	
Toluene-d8 (S)	98 %		80-120	500		02/07/13 17:41	2037-26-5	
Toluene-d8 (S)	533 %		80-120	1		02/06/13 23:47	2037-26-5	S0
Preservation pH	1.0		0.10	1		02/06/13 23:47		
Preservation pH	1.0		0.10	500		02/07/13 17:41		
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B						
Alkalinity, Total as CaCO <sub>3</sub>	14200 mg/L		300	15		02/07/13 13:18		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C						
Total Dissolved Solids	183 mg/L		5.0	1		02/07/13 15:06		
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	12.4 Std. Units		0.10	1		02/06/13 15:15		H6
<b>4500S2D Sulfide, Total</b>		Analytical Method: SM 4500-S-2 D						
Sulfide, Total	ND mg/L		0.050	1		02/11/13 16:13	18496-25-8	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0						
Chloride	277 mg/L		20.0	20		02/08/13 17:47	16887-00-6	
Sulfate	1510 mg/L		100	100		02/08/13 18:05	14808-79-8	
<b>353.2 Nitrogen, NO<sub>2</sub>/NO<sub>3</sub> unpres</b>		Analytical Method: EPA 353.2						
Nitrogen, Nitrate	1.3 mg/L		0.20	2		02/06/13 08:41		
Nitrogen, Nitrite	1.1 mg/L		0.20	2		02/06/13 08:41		
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	2.3 mg/L		0.20	2		02/06/13 08:41		
<b>5310C TOC</b>		Analytical Method: SM 5310C						
Total Organic Carbon	403 mg/L		150	300		02/11/13 21:08	7440-44-0	
<b>Carbon Dioxide Calculation</b>		Analytical Method: SM 4500-CO <sub>2</sub> D						
Carbon dioxide	4710 mg/L		20.0	1		02/14/13 10:14	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

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Page 11 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Sample: MW-4-020413	Lab ID: 60138104004	Collected: 02/04/13 11:22	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/11/13 13:34	74-84-0	
Ethene	ND ug/L		6.2	1		02/11/13 13:34	74-85-1	
Methane	ND ug/L		6.6	1		02/11/13 13:34	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	3630 ug/L		50.0	1	02/07/13 11:00	02/08/13 15:02	7439-89-6	
Manganese	2060 ug/L		5.0	1	02/07/13 11:00	02/08/13 15:02	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/08/13 18:47	67-64-1	
Benzene	ND ug/L		1.0	1		02/08/13 18:47	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/08/13 18:47	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/08/13 18:47	108-90-7	
Chloroform	ND ug/L		1.0	1		02/08/13 18:47	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/08/13 18:47	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 18:47	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 18:47	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/08/13 18:47	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/08/13 18:47	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/08/13 18:47	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/08/13 18:47	127-18-4	
Toluene	ND ug/L		1.0	1		02/08/13 18:47	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/08/13 18:47	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/08/13 18:47	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/08/13 18:47	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/08/13 18:47	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		02/08/13 18:47	460-00-4	
Dibromofluoromethane (S)	92 %		80-120	1		02/08/13 18:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %		80-120	1		02/08/13 18:47	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		02/08/13 18:47	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 18:47		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	234 mg/L		20.0	1		02/07/13 11:27		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	350 mg/L		5.0	1		02/07/13 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		02/06/13 15:15		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.069 mg/L		0.050	1		02/11/13 16:13	18496-25-8	

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Page 12 of 34



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

Sample: MW-4-020413	Lab ID: 60138104004	Collected: 02/04/13 11:22	Received: 02/06/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	12.7 mg/L		1.0	1		02/08/13 18:22	16887-00-6	
Sulfate	46.0 mg/L		5.0	5		02/08/13 18:40	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.20	2		02/06/13 08:42		D3
Nitrogen, Nitrite	ND mg/L		0.20	2		02/06/13 08:42		D3
Nitrogen, NO2 plus NO3	ND mg/L		0.20	2		02/06/13 08:42		D3
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	4.7 mg/L		1.0	2		02/11/13 15:42	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	218 mg/L		20.0	1		02/14/13 10:14	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 13 of 34

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

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Sample: TB-1-020413      Lab ID: 60138104005      Collected: 02/04/13 00:00      Received: 02/06/13 07:30      Matrix: Water

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Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		02/06/13 21:37	67-64-1	
Benzene	ND	ug/L	1.0	1		02/06/13 21:37	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		02/06/13 21:37	75-15-0	
Chlorobenzene	ND	ug/L	1.0	1		02/06/13 21:37	108-90-7	
Chloroform	ND	ug/L	1.0	1		02/06/13 21:37	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/06/13 21:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/06/13 21:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/06/13 21:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		02/06/13 21:37	100-41-4	
Iodomethane	ND	ug/L	10.0	1		02/06/13 21:37	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		02/06/13 21:37	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/06/13 21:37	127-18-4	
Toluene	ND	ug/L	1.0	1		02/06/13 21:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/06/13 21:37	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		02/06/13 21:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/06/13 21:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		02/06/13 21:37	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		02/06/13 21:37	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		02/06/13 21:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	92 %		80-120	1		02/06/13 21:37	17060-07-0	
Toluene-d8 (S)	103 %		80-120	1		02/06/13 21:37	2037-26-5	
Preservation pH	1.0		0.10	1		02/06/13 21:37		

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch:	AIR/16760	Analysis Method:	RSK 175
QC Batch Method:	RSK 175	Analysis Description:	RSK 175 AIR HEADSPACE
Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004			

METHOD BLANK: 1376084 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/11/13 12:18	
Ethene	ug/L	ND	6.2	02/11/13 12:18	
Methane	ug/L	ND	6.6	02/11/13 12:18	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1376085 1376086

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	108	106	95	94	85-115	1	20	
Ethene	ug/L	106	99.3	100	94	94	85-115	.7	20	
Methane	ug/L	60.7	57.1	57.3	94	95	85-115	.5	20	

SAMPLE DUPLICATE: 1376196

Parameter	Units	5075794001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	7.3	ND		20	

SAMPLE DUPLICATE: 1376197

Parameter	Units	5075797001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	ND	ND		20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: MPRP/21424 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

METHOD BLANK: 1136892 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	02/08/13 14:36	
Manganese	ug/L	ND	5.0	02/08/13 14:36	

LABORATORY CONTROL SAMPLE: 1136893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10200	102	80-120	
Manganese	ug/L	1000	1030	103	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1136894 1136895

Parameter	Units	60138098001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	ND	10000	10000	9910	10000	99	100	75-125	1	20	
Manganese	ug/L	212	1000	1000	1190	1200	98	99	75-125	1	20	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: MSV/51734 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104005

METHOD BLANK: 1136377 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/06/13 21:23	
1,2-Dichloroethane	ug/L	ND	1.0	02/06/13 21:23	
Acetone	ug/L	ND	10.0	02/06/13 21:23	
Benzene	ug/L	ND	1.0	02/06/13 21:23	
Carbon disulfide	ug/L	ND	5.0	02/06/13 21:23	
Chlorobenzene	ug/L	ND	1.0	02/06/13 21:23	
Chloroform	ug/L	ND	1.0	02/06/13 21:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/06/13 21:23	
Ethylbenzene	ug/L	ND	1.0	02/06/13 21:23	
Iodomethane	ug/L	ND	10.0	02/06/13 21:23	
Methylene chloride	ug/L	ND	1.0	02/06/13 21:23	
Tetrachloroethene	ug/L	ND	1.0	02/06/13 21:23	
Toluene	ug/L	ND	1.0	02/06/13 21:23	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/06/13 21:23	
Trichloroethene	ug/L	ND	1.0	02/06/13 21:23	
Vinyl chloride	ug/L	ND	1.0	02/06/13 21:23	
Xylene (Total)	ug/L	ND	3.0	02/06/13 21:23	
1,2-Dichloroethane-d4 (S)	%	94	80-120	02/06/13 21:23	
4-Bromofluorobenzene (S)	%	101	80-120	02/06/13 21:23	
Dibromofluoromethane (S)	%	100	80-120	02/06/13 21:23	
Toluene-d8 (S)	%	102	80-120	02/06/13 21:23	

LABORATORY CONTROL SAMPLE: 1136378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	98	75-124	
1,2-Dichloroethane	ug/L	20	19.0	95	72-122	
Acetone	ug/L	100	72.7	73	60-126	
Benzene	ug/L	20	19.8	99	73-122	
Carbon disulfide	ug/L	20	17.3	87	62-125	
Chlorobenzene	ug/L	20	20.3	102	80-120	
Chloroform	ug/L	20	18.7	93	76-120	
cis-1,2-Dichloroethene	ug/L	20	19.1	96	69-120	
Ethylbenzene	ug/L	20	19.7	98	76-123	
Iodomethane	ug/L	20	18.4	92	40-160	
Methylene chloride	ug/L	20	17.8	89	71-123	
Tetrachloroethene	ug/L	20	19.7	98	79-122	
Toluene	ug/L	20	19.9	99	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	78-126	
Trichloroethene	ug/L	20	19.8	99	76-120	
Vinyl chloride	ug/L	20	16.4	82	57-140	

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## REPORT OF LABORATORY ANALYSIS

Page 17 of 34

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

LABORATORY CONTROL SAMPLE: 1136378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	60.7	101	76-122	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1136379 1136380

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	RPD	Max Qual
		60138091001	Result	Spike Conc.	MSD	Result	MS	Result	% Rec				
1,1,1-Trichloroethane	ug/L	ND	100	100	95.0	92.5	95	93	72-139	3	22		
1,2-Dichloroethane	ug/L	ND	100	100	93.5	91.1	93	91	53-144	3	27		
Acetone	ug/L	ND	500	500	321	322	64	64	40-139	0	24		
Benzene	ug/L	ND	100	100	97.0	100	96	96	48-150	3	31		
Carbon disulfide	ug/L	ND	100	100	79.0	77.4	79	77	57-137	2	22		
Chlorobenzene	ug/L	ND	100	100	158	136	157	134	68-131	15	22	M1	
Chloroform	ug/L	ND	100	100	91.8	87.9	92	88	69-126	4	20		
cis-1,2-Dichloroethene	ug/L		100	100	341	326	132	117	63-127	5	20	M1	
Ethylbenzene	ug/L	ND	100	100	92.9	86.7	93	87	50-147	7	31		
Iodomethane	ug/L	ND	100	100	78.7	86.6	79	87	40-135	10	30		
Methylene chloride	ug/L	ND	100	100	91.1	87.7	89	86	67-128	4	20		
Tetrachloroethene	ug/L	ND	100	100	94.8	100	95	95	66-139	6	20		
Toluene	ug/L	ND	100	100	93.6	87.9	94	88	51-147	6	32		
trans-1,2-Dichloroethene	ug/L		100	100	103	102	84	84	73-142	1	20		
Trichloroethene	ug/L	17.4	100	100	118	113	101	96	67-130	4	20		
Vinyl chloride	ug/L	ND	100	100	72.8	73.8	69	70	47-159	1	20		
Xylene (Total)	ug/L	ND	300	300	243	226	81	75	49-145	7	31		
1,2-Dichloroethane-d4 (S)	%						89	94	80-120				
4-Bromofluorobenzene (S)	%						101	101	80-120				
Dibromofluoromethane (S)	%						95	94	80-120				
Toluene-d8 (S)	%						102	101	80-120				
Preservation pH			1.0			1.0	1.0			0			



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: MSV/51757 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138104003

METHOD BLANK: 1137130 Matrix: Water

Associated Lab Samples: 60138104003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/07/13 17:26	
1,2-Dichloroethane	ug/L	ND	1.0	02/07/13 17:26	
Acetone	ug/L	ND	10.0	02/07/13 17:26	
Benzene	ug/L	ND	1.0	02/07/13 17:26	
Carbon disulfide	ug/L	ND	5.0	02/07/13 17:26	
Chlorobenzene	ug/L	ND	1.0	02/07/13 17:26	
Chloroform	ug/L	ND	1.0	02/07/13 17:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/07/13 17:26	
Ethylbenzene	ug/L	ND	1.0	02/07/13 17:26	
Iodomethane	ug/L	ND	10.0	02/07/13 17:26	
Methylene chloride	ug/L	ND	1.0	02/07/13 17:26	
Tetrachloroethene	ug/L	ND	1.0	02/07/13 17:26	
Toluene	ug/L	ND	1.0	02/07/13 17:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/07/13 17:26	
Trichloroethene	ug/L	ND	1.0	02/07/13 17:26	
Vinyl chloride	ug/L	ND	1.0	02/07/13 17:26	
Xylene (Total)	ug/L	ND	3.0	02/07/13 17:26	
1,2-Dichloroethane-d4 (S)	%	89	80-120	02/07/13 17:26	
4-Bromofluorobenzene (S)	%	105	80-120	02/07/13 17:26	
Dibromofluoromethane (S)	%	97	80-120	02/07/13 17:26	
Toluene-d8 (S)	%	98	80-120	02/07/13 17:26	

LABORATORY CONTROL SAMPLE: 1137131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.5	98	75-124	
1,2-Dichloroethane	ug/L	20	17.9	89	72-122	
Acetone	ug/L	100	79.3	79	60-126	
Benzene	ug/L	20	18.9	95	73-122	
Carbon disulfide	ug/L	20	18.8	94	62-125	
Chlorobenzene	ug/L	20	18.7	93	80-120	
Chloroform	ug/L	20	18.3	92	76-120	
cis-1,2-Dichloroethene	ug/L	20	18.9	95	69-120	
Ethylbenzene	ug/L	20	18.9	94	76-123	
Iodomethane	ug/L	20	19.6	98	40-160	
Methylene chloride	ug/L	20	20.0	100	71-123	
Tetrachloroethene	ug/L	20	18.5	93	79-122	
Toluene	ug/L	20	17.7	89	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.0	100	78-126	
Trichloroethene	ug/L	20	19.1	95	76-120	
Vinyl chloride	ug/L	20	18.0	90	57-140	

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Page 19 of 34

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

LABORATORY CONTROL SAMPLE: 1137131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	55.6	93	76-122	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			104	80-120	
Toluene-d8 (S)	%			98	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: MSV/51773 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138104004

METHOD BLANK: 1137818 Matrix: Water

Associated Lab Samples: 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/08/13 17:21	
1,2-Dichloroethane	ug/L	ND	1.0	02/08/13 17:21	
Acetone	ug/L	ND	10.0	02/08/13 17:21	
Benzene	ug/L	ND	1.0	02/08/13 17:21	
Carbon disulfide	ug/L	ND	5.0	02/08/13 17:21	
Chlorobenzene	ug/L	ND	1.0	02/08/13 17:21	
Chloroform	ug/L	ND	1.0	02/08/13 17:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Ethylbenzene	ug/L	ND	1.0	02/08/13 17:21	
Iodomethane	ug/L	ND	10.0	02/08/13 17:21	
Methylene chloride	ug/L	ND	1.0	02/08/13 17:21	
Tetrachloroethene	ug/L	ND	1.0	02/08/13 17:21	
Toluene	ug/L	ND	1.0	02/08/13 17:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Trichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Vinyl chloride	ug/L	ND	1.0	02/08/13 17:21	
Xylene (Total)	ug/L	ND	3.0	02/08/13 17:21	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/08/13 17:21	
4-Bromofluorobenzene (S)	%	102	80-120	02/08/13 17:21	
Dibromofluoromethane (S)	%	90	80-120	02/08/13 17:21	
Toluene-d8 (S)	%	98	80-120	02/08/13 17:21	

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.4	107	75-124	
1,2-Dichloroethane	ug/L	20	20.7	104	72-122	
Acetone	ug/L	100	71.4	71	60-126	
Benzene	ug/L	20	20.7	104	73-122	
Carbon disulfide	ug/L	20	17.6	88	62-125	
Chlorobenzene	ug/L	20	21.5	108	80-120	
Chloroform	ug/L	20	18.7	93	76-120	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	69-120	
Ethylbenzene	ug/L	20	20.5	103	76-123	
Iodomethane	ug/L	20	18.2	91	40-160	
Methylene chloride	ug/L	20	17.9	90	71-123	
Tetrachloroethene	ug/L	20	21.8	109	79-122	
Toluene	ug/L	20	20.5	103	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	78-126	
Trichloroethene	ug/L	20	21.1	106	76-120	
Vinyl chloride	ug/L	20	17.7	88	57-140	

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Page 21 of 34

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	63.9	107	76-122	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			94	80-120	
Toluene-d8 (S)	%			99	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138104

QC Batch: MSV/51867 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138104002

METHOD BLANK: 1140574 Matrix: Water

Associated Lab Samples: 60138104002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/14/13 12:34	
1,2-Dichloroethane	ug/L	ND	1.0	02/14/13 12:34	
Acetone	ug/L	ND	10.0	02/14/13 12:34	
Benzene	ug/L	ND	1.0	02/14/13 12:34	
Carbon disulfide	ug/L	ND	5.0	02/14/13 12:34	
Chloroform	ug/L	ND	1.0	02/14/13 12:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Ethylbenzene	ug/L	ND	1.0	02/14/13 12:34	
Iodomethane	ug/L	ND	10.0	02/14/13 12:34	
Methylene chloride	ug/L	ND	1.0	02/14/13 12:34	
Tetrachloroethene	ug/L	ND	1.0	02/14/13 12:34	
Toluene	ug/L	ND	1.0	02/14/13 12:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Trichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Vinyl chloride	ug/L	ND	1.0	02/14/13 12:34	
Xylene (Total)	ug/L	ND	3.0	02/14/13 12:34	
1,2-Dichloroethane-d4 (S)	%	89	80-120	02/14/13 12:34	
4-Bromofluorobenzene (S)	%	100	80-120	02/14/13 12:34	
Dibromofluoromethane (S)	%	94	80-120	02/14/13 12:34	
Toluene-d8 (S)	%	102	80-120	02/14/13 12:34	

LABORATORY CONTROL SAMPLE: 1140575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	75-124	
1,2-Dichloroethane	ug/L	20	16.8	84	72-122	
Acetone	ug/L	100	77.3	77	60-126	
Benzene	ug/L	20	18.3	92	73-122	
Carbon disulfide	ug/L	20	18.1	90	62-125	
Chloroform	ug/L	20	17.5	88	76-120	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	69-120	
Ethylbenzene	ug/L	20	19.3	96	76-123	
Iodomethane	ug/L	20	16.7	83	40-160	
Methylene chloride	ug/L	20	21.5	107	71-123	
Tetrachloroethene	ug/L	20	21.0	105	79-122	
Toluene	ug/L	20	18.9	94	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	78-126	
Trichloroethene	ug/L	20	17.9	90	76-120	
Vinyl chloride	ug/L	20	16.6	83	57-140	
Xylene (Total)	ug/L	60	57.9	96	76-122	
1,2-Dichloroethane-d4 (S)	%			94	80-120	

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Page 23 of 34

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

LABORATORY CONTROL SAMPLE: 1140575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch:	WET/39607	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60138104001, 60138104002, 60138104003, 60138104004		

METHOD BLANK: 1136584 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/07/13 10:16	

LABORATORY CONTROL SAMPLE: 1136585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	513	103	90-110	

SAMPLE DUPLICATE: 1136586

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	60137912001	1240	1170	6	10

SAMPLE DUPLICATE: 1136587

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	60137866002	236	237	1	10

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: WET/39624 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

METHOD BLANK: 1137037 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/07/13 15:05	

SAMPLE DUPLICATE: 1137038

Parameter	Units	60138116001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	347	354	2	17	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: WET/39606 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

SAMPLE DUPLICATE: 1136467

Parameter	Units	60138055001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	5	H6

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Page 27 of 34

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch:	WET/39665	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples:	60138104001, 60138104002, 60138104003, 60138104004		

METHOD BLANK: 1138722 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/11/13 16:12	

LABORATORY CONTROL SAMPLE: 1138723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.50	99	80-120	

MATRIX SPIKE SAMPLE: 1138724

Parameter	Units	60138104001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.43	77	75-125	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: WETA/23472 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

METHOD BLANK: 1137599 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/08/13 14:36	
Sulfate	mg/L	ND	1.0	02/08/13 14:36	

LABORATORY CONTROL SAMPLE: 1137600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	101	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

MATRIX SPIKE SAMPLE: 1137601

Parameter	Units	60138104002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	105	50	156	102	64-118	
Sulfate	mg/L	100	50	153	106	61-119	

MATRIX SPIKE SAMPLE: 1137602

Parameter	Units	60138107002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	48.5	25	70.5	88	64-118	
Sulfate	mg/L	56.4	25	78.5	89	61-119	

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Page 29 of 34

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: WETA/23430 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

METHOD BLANK: 1136063 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/06/13 08:36	
Nitrogen, Nitrite	mg/L	ND	0.10	02/06/13 08:36	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/06/13 08:36	

LABORATORY CONTROL SAMPLE: 1136064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.6	102	90-110	
Nitrogen, Nitrite	mg/L	.4	0.40	101	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1136065

Parameter	Units	60138104001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	100	90-110	H3
Nitrogen, Nitrite	mg/L	ND	.4	0.40	98	90-110	H3
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	2.0	100	90-110	H3

SAMPLE DUPLICATE: 1136066

Parameter	Units	60138104003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	1.3	1.7	31	15	
Nitrogen, Nitrite	mg/L	1.1	0.68	44	31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2.3	2.4	3	13	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

QC Batch: WETA/16234 Analysis Method: SM 5310C  
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon  
Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

METHOD BLANK: 747863 Matrix: Water

Associated Lab Samples: 60138104001, 60138104002, 60138104003, 60138104004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/11/13 14:10	

LABORATORY CONTROL SAMPLE: 747864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 747865 747866

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	46.6	150	150	211	209	109	108	108	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 747867 747868

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	1.7	5	5	6.6	6.6	97	97	97	80-120	0	20	

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Page 31 of 34

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138104

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/51757

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51773

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51867

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- 1e The internal standard recovery associated with this sample is below criteria. The reported results should be considered an estimated value.
- D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
- H3 Sample was received or analysis requested beyond the recognized method holding time.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- S0 Surrogate recovery outside laboratory control limits.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138104

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138104001	MW-19-020413	RSK 175	AIR/16760		
60138104002	GM-1-020413	RSK 175	AIR/16760		
60138104003	GM-2-020413	RSK 175	AIR/16760		
60138104004	MW-4-020413	RSK 175	AIR/16760		
60138104001	MW-19-020413	EPA 3010	MPRP/21424	EPA 6010	ICP/17247
60138104002	GM-1-020413	EPA 3010	MPRP/21424	EPA 6010	ICP/17247
60138104003	GM-2-020413	EPA 3010	MPRP/21424	EPA 6010	ICP/17247
60138104004	MW-4-020413	EPA 3010	MPRP/21424	EPA 6010	ICP/17247
60138104001	MW-19-020413	EPA 5030B/8260	MSV/51734		
60138104002	GM-1-020413	EPA 5030B/8260	MSV/51734		
60138104002	GM-1-020413	EPA 5030B/8260	MSV/51867		
60138104003	GM-2-020413	EPA 5030B/8260	MSV/51734		
60138104003	GM-2-020413	EPA 5030B/8260	MSV/51757		
60138104004	MW-4-020413	EPA 5030B/8260	MSV/51773		
60138104005	TB-1-020413	EPA 5030B/8260	MSV/51734		
60138104001	MW-19-020413	SM 2320B	WET/39607		
60138104002	GM-1-020413	SM 2320B	WET/39607		
60138104003	GM-2-020413	SM 2320B	WET/39607		
60138104004	MW-4-020413	SM 2320B	WET/39607		
60138104001	MW-19-020413	SM 2540C	WET/39624		
60138104002	GM-1-020413	SM 2540C	WET/39624		
60138104003	GM-2-020413	SM 2540C	WET/39624		
60138104004	MW-4-020413	SM 2540C	WET/39624		
60138104001	MW-19-020413	SM 4500-H+B	WET/39606		
60138104002	GM-1-020413	SM 4500-H+B	WET/39606		
60138104003	GM-2-020413	SM 4500-H+B	WET/39606		
60138104004	MW-4-020413	SM 4500-H+B	WET/39606		
60138104001	MW-19-020413	SM 4500-S-2 D	WET/39665		
60138104002	GM-1-020413	SM 4500-S-2 D	WET/39665		
60138104003	GM-2-020413	SM 4500-S-2 D	WET/39665		
60138104004	MW-4-020413	SM 4500-S-2 D	WET/39665		
60138104001	MW-19-020413	EPA 300.0	WETA/23472		
60138104002	GM-1-020413	EPA 300.0	WETA/23472		
60138104003	GM-2-020413	EPA 300.0	WETA/23472		
60138104004	MW-4-020413	EPA 300.0	WETA/23472		
60138104001	MW-19-020413	EPA 353.2	WETA/23430		
60138104002	GM-1-020413	EPA 353.2	WETA/23430		
60138104003	GM-2-020413	EPA 353.2	WETA/23430		
60138104004	MW-4-020413	EPA 353.2	WETA/23430		
60138104001	MW-19-020413	SM 5310C	WETA/16234		
60138104002	GM-1-020413	SM 5310C	WETA/16234		
60138104003	GM-2-020413	SM 5310C	WETA/16234		

Date: 02/18/2013 05:39 PM

**REPORT OF LABORATORY ANALYSIS**

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Page 33 of 34

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138104

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138104004	MW-4-020413	SM 5310C		WETA/16234	
60138104001	MW-19-020413	SM 4500-CO2 D		WETA/23537	
60138104002	GM-1-020413	SM 4500-CO2 D		WETA/23537	
60138104003	GM-2-020413	SM 4500-CO2 D		WETA/23537	
60138104004	MW-4-020413	SM 4500-CO2 D		WETA/23537	



14 February 2013

Jamie Slade  
Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa, KS 66219

RE: PAS Subcontract 8141

60138104

Enclosed are the results of analyses for samples received by the laboratory on 02/07/13 09:25. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

#### ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-19-020413	1B30333-01	Water	02/04/13 07:50	02/07/13 09:25
GM-1-020413	1B30333-02	Water	02/04/13 08:55	02/07/13 09:25
GM-2-020413	1B30333-03	Water	02/04/13 10:13	02/07/13 09:25
MW-4-020413	1B30333-04	Water	02/04/13 11:22	02/07/13 09:25



MEMBER  
**ACIL**

Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

1B3D333

## **Chain of Custody**

Workorder	Workorder Name	Results Requested	
90138-104	SOLUTIA GROUNDWATER	2/13/2013	
Jamie Church Pace Analytical Kansas 3608 Lorier Blvd. Lenexa, KS 66219 Phone: (913)599-5665 Email: jamie.church@pacelabs.com	P.O. SUB-6876	EPA 8141 Alachlor only	
		LAB USE ONLY <i>02/23/2013</i>	
		Date/Time <i>2/13/2013 9:25</i>	
Transfers	Released By	Date/Time Received By	
1	<i>Jamie Church</i>	<i>2/13/2013 10:00</i>	
2		<i>REMOVED</i>	
3			
Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples intact Y or N
1			
2			
3			

FMT-ALL-C-002rev.00 24March2009 Page 1 of 1

Wednesday, February 06, 2013 2:06:42 PM

*The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.*

Page 2 of 9



Pace Analytical-KS  
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Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

**MW-19-020413**

**1B30333-01 (Water)**

**Date Sampled: 2/4/2013 7:50:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	448	2.00	ug/L	20	IWB0194	02/07/13	02/14/13 12:13	EPA 8141	
Surrogate: 2-Nitro-m-xylene		%		45-134	"	"	"	"	S-01



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Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

**GM-1-020413**

**1B30333-02 (Water)**

**Date Sampled: 2/4/2013 8:55:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	98300	790	ug/L	5000	1WB0194	02/07/13	02/14/13 14:10	EPA 8141	
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Surrogate: 2-Nitro-m-xylene % 45-134 " " " " S-01



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

**GM-2-020413**

**1B30333-03 (Water)**

**Date Sampled: 2/4/2013 10:13:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

<b>Alachlor</b>	<b>140000</b>	843	ug/L	5000	1WB0194	02/07/13	02/14/13 14:49	EPA 8141	
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Surrogate: 2-Nitro-m-xylene % 45-134 " " " " S-01



Pace Analytical-KS  
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Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

**MW-4-020413**

**1B30333-04 (Water)**

**Date Sampled: 2/4/2013 11:22:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Keystone Laboratories, Inc. - Newton**

**Determination of Nitrogen/Phosphorus Herbicides & Insecticides**

Alachlor	0.40	0.10	ug/L	1	IWB0194	02/07/13	02/13/13 04:01	EPA 8141	
Surrogate: 2-Nitro-m-xylene		93.1 %		45-134	"	"	"	"	"



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

### Determination of Nitrogen/Phosphorus Herbicides & Insecticides - Quality Control

#### Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

#### Batch 1WB0194 - 3510C NP/OC Sep Fnl

<b>Blank (1WB0194-BLK1)</b>					Prepared: 02/07/13	Analyzed: 02/13/13				
Alachlor	ND	0.10	ug/L							
Surrogate: 2-Nitro-m-xylene	10.6	"		10.0560		105	45-134			
<b>LCS (1WB0194-BS1)</b>					Prepared: 02/07/13	Analyzed: 02/13/13				
Alachlor	2.665	0.10	ug/L	2.74010		97.3	57-143			
Surrogate: 2-Nitro-m-xylene	9.00	"		10.0560		89.5	45-134			
<b>LCS Dup (1WB0194-BSD1)</b>					Prepared: 02/07/13	Analyzed: 02/13/13				
Alachlor	2.930	0.10	ug/L	2.74010		107	57-143	9.47	30	
Surrogate: 2-Nitro-m-xylene	8.92	"		10.0560		88.7	45-134			
<b>Reference (1WB0194-SRM1)</b>					Prepared: 02/07/13	Analyzed: 02/13/13				
Alachlor	2.965	0.10	ug/L	2.74010		108	70-130			
Surrogate: 2-Nitro-m-xylene	9.44	"		10.0560		93.9	45-134			

#### Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
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Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2013
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2013
MO-KC	Missouri Department of Natural Resources	140	04/30/2013
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2013
SIA1X	Iowa Department of Natural Resources	95	02/01/2014

The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.

Page 7 of 9



Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

### Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



MEMBER  
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Pace Analytical-KS  
9608 Loiret Blvd.  
Lenexa KS, 66219

Project: PAS Subcontract 8141/ 8151  
Project Number: 60138104  
Project Manager: Jamie Slade

Reported  
02/14/13 16:32

Sue Thompson  
Project Manager II

*The results in this report apply to the samples analyzed in accordance with the Chain-of-Custody record. This analytical report must be reproduced in its entirety.*

Page 9 of 9

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information:

Company: Environmental Operations		Report To: Larry Rosen	Attention:	Page: / of /	
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104		Copy To:	Company Name:	REGULATORY AGENCY	
Email To: larry@environmentalops.com		Purchase Order No.:	Address:	<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
Phone: 314-241-0900	Fax: 314-436-2900	Project Name: Solutia Groundwater	Pace Quote Reference:	<input type="checkbox"/> DRINKING WATER	<input type="checkbox"/> OTHER POTW
Requested Due Date/TAT:		Project Number:	Pace Project Manager: Jamie Slade	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA
			Pace Profile #:	<input type="checkbox"/> STATE: MO	

ITEM #	Section D Required Client Information	Valid Matrix Codes		MATERIAL CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	Requested Analysis Filtered (Y/N)																				
		MATRIX	CODE		SAMPLE TYPE	G=GRAB C=COMP	DATE	TIME		DATE	TIME	# OF CONTAINERS	Preservatives			Y/N	8260 VOCs	5010 Fe, Mn	Sulfide	TOC	Alkalinity	TDS	Carbon Dioxide	Sulfate/Chloride	Nitrate	Methane/Ethane/Ethene	8141 Alachlor	Residual Chlorine (Y/N)		
1	SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE	WT	G	DW	3/4	7:50	3D69H	3U1h4U	1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Y	X	X	X	Y	X	X	X	X	X	1B93210-5 1B92U 2AG1U	01	
2	MW-1-020413	WT	G	WT	3/4	9:55			1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	X	X	X	X	X	X	X	X	X	X	1B93210-5 1B92U 2AG1U	02	
3	MW-2-020413	WT	G	WT	3/4	10:13			1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	X	X	X	X	X	X	X	X	X	X	1B93210-5 1B92U 2AG1U	03	
4	MW-4-020413	WT	G	WT	3/4	11:22	↓	↓	1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Y	X	X	X	Y	X	X	X	X	X	1B93210-5 1B92U 2AG1U	04	
5	TB-1-020413	WT	G	WT	3/4	6:00			1	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	X											1B93210-5 1B92U 2AG1U	05
6		WT	G																											
7		WT	G																											
8		WT	G																											
9		WT	G																											
10		WT	G																											
11		WT	G																											
12		WT	G																											

ADDITIONAL COMMENTS		RELINQUISHED BY AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS	
Send 2020413 to all sample jars		Pace 2/5/13		2/5/13	07:00	Pace 2/5/13		2/5/13	07:00	Y Y Y	
		Pace 2/5/13		2/5/13	17:00	Pace 2/6/13		2/6/13	07:30	Y Y Y	
										Y Y Y	

**SAMPLER NAME AND SIGNATURE**

 PRINT Name of SAMPLER: *Jamie Slade*

 SIGNATURE of SAMPLER: *Jamie Slade*

DATE Signed (MM/DD/YY): 2/5/13

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
------------	-----------------------	-----------------------------	----------------------



## Sample Condition Upon Receipt

WO# : 60138104



60138104

Client Name: FOTCourier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  VIATracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No 

Optional

Proj Due Date:

Proj Name:

Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  PPCThermometer Used: T-112 / T-194Type of Ice: Wet Blue None  Samples received on ice, cooling process has begun.Cooler Temperature: 22/24

(circle one)

Date and initials of person examining contents: PR 2-6-13

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. MW-19 not received with enough time to process in hold
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. NO3
Rush Turn Around Time requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses Matrix:	<u>✓</u>	13.
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <i>Added 2.5 ml of HNO3 to 6M -2 DRN PH 6.0/6.0</i>
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water). Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>PR</u> Lot # of added preservative <u>13094</u>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased): <u>12712-3</u>		15.
Headspace in VOA vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: - Per Larry Rosen, analyze MW-19 nitrate out of hold.

Project Manager Review: *John P. Bush*

2/6/13 Date: \_\_\_\_\_



Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa, KS 66219

(913)599-5665

February 18, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 30

PacePackage P. 1 of 32



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nebraska Certification #: Pace  
Nevada Certification #: MN\_00064  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334

New York Certification #: 11888  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2  
Illinois Certification #: 003097

## REPORT OF LABORATORY ANALYSIS

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Page 2 of 30

## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138182001	FBCSA-MW-5-020513	Water	02/05/13 09:48	02/07/13 08:00
60138182002	VW-1-020513	Water	02/05/13 10:32	02/07/13 08:00
60138182003	VW-2-020513	Water	02/05/13 11:35	02/07/13 08:00
60138182004	MW-24A-020513	Water	02/05/13 14:32	02/07/13 08:00
60138182005	TB-2-020513	Water	02/05/13 00:00	02/07/13 08:00

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Page 3 of 30



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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138182001	FBCSA-MW-5-020513	RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138182002	VW-1-020513	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60138182003	VW-2-020513	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138182004	MW-24A-020513	EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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Page 4 of 30

### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138182

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138182005	TB-2-020513	SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K

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Page 5 of 30



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: FBCSA-MW-5-020513	Lab ID: 60138182001	Collected: 02/05/13 09:48	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	6.9	ug/L	6.2	1		02/11/13 15:10	74-84-0	
Ethene	ND	ug/L	6.2	1		02/11/13 15:10	74-85-1	
Methane	2110	ug/L	6.6	1		02/11/13 15:10	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	13600	ug/L	50.0	1	02/11/13 11:30	02/12/13 10:50	7439-89-6	
Manganese	7980	ug/L	5.0	1	02/11/13 11:30	02/12/13 10:50	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		02/08/13 19:02	67-64-1	
Benzene	1.2	ug/L	1.0	1		02/08/13 19:02	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		02/08/13 19:02	75-15-0	
Chlorobenzene	409	ug/L	5.0	5		02/08/13 19:16	108-90-7	
Chloroform	ND	ug/L	1.0	1		02/08/13 19:02	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/08/13 19:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/08/13 19:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/08/13 19:02	156-60-5	
Phenylbenzene	ND	ug/L	1.0	1		02/08/13 19:02	100-41-4	
Dimethylbenzene	ND	ug/L	10.0	1		02/08/13 19:02	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		02/08/13 19:02	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/08/13 19:02	127-18-4	
Toluene	ND	ug/L	1.0	1		02/08/13 19:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/08/13 19:02	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		02/08/13 19:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/08/13 19:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		02/08/13 19:02	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	105	%	80-120	1		02/08/13 19:02	460-00-4	
Dibromofluoromethane (S)	94	%	80-120	1		02/08/13 19:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		02/08/13 19:02	17060-07-0	
Toluene-d8 (S)	94	%	80-120	1		02/08/13 19:02	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 19:02		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	888	mg/L	20.0	1		02/11/13 09:23		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1220	mg/L	5.0	1		02/08/13 09:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		02/11/13 16:13	18496-25-8	

Date: 02/18/2013 04:36 PM

## REPORT OF LABORATORY ANALYSIS

Page 6 of 30

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: FBCSA-MW-5-020513	Lab ID: 60138182001	Collected: 02/05/13 09:48	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	15.4	mg/L	5.0	5		02/11/13 15:54	16887-00-6	
Sulfate	86.0	mg/L	5.0	5		02/11/13 15:54	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/07/13 14:58		H1
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/07/13 14:58		H1
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/07/13 14:58		H1
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.9	mg/L	3.0	6		02/11/13 17:30	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	894	mg/L	20.0	1		02/14/13 10:14	124-38-9	

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Page 7 of 30



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

Sample: VW-1-020513	Lab ID: 60138182002	Collected: 02/05/13 10:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	7.8	ug/L	6.2	1		02/11/13 15:42	74-84-0	
Ethene	ND	ug/L	6.2	1		02/11/13 15:42	74-85-1	
Methane	3990	ug/L	6.6	1		02/11/13 15:42	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	15400	ug/L	50.0	1	02/11/13 11:30	02/12/13 10:52	7439-89-6	
Manganese	609	ug/L	5.0	1	02/11/13 11:30	02/12/13 10:52	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		02/08/13 19:31	67-64-1	
Benzene	3.5	ug/L	1.0	1		02/08/13 19:31	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		02/08/13 19:31	75-15-0	
Chlorobenzene	921	ug/L	5.0	5		02/08/13 19:45	108-90-7	
Chloroform	ND	ug/L	1.0	1		02/08/13 19:31	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/08/13 19:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/08/13 19:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/08/13 19:31	156-60-5	
Phenylbenzene	ND	ug/L	1.0	1		02/08/13 19:31	100-41-4	
Dimethylbenzene	ND	ug/L	10.0	1		02/08/13 19:31	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		02/08/13 19:31	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/08/13 19:31	127-18-4	
Toluene	ND	ug/L	1.0	1		02/08/13 19:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/08/13 19:31	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		02/08/13 19:31	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/08/13 19:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		02/08/13 19:31	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	107	%	80-120	1		02/08/13 19:31	460-00-4	
Dibromofluoromethane (S)	93	%	80-120	1		02/08/13 19:31	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		02/08/13 19:31	17060-07-0	
Toluene-d8 (S)	93	%	80-120	1		02/08/13 19:31	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 19:31		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	570	mg/L	20.0	1		02/11/13 09:30		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	723	mg/L	5.0	1		02/08/13 09:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.5	Std. Units	0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.18	mg/L	0.050	1		02/11/13 16:13	18496-25-8	

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Page 8 of 30

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: VW-1-020513	Lab ID: 60138182002	Collected: 02/05/13 10:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	9.3	mg/L	1.0	1		02/11/13 16:47	16887-00-6	
Sulfate	14.1	mg/L	1.0	1		02/11/13 16:47	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/07/13 14:59		H1
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/07/13 14:59		H1
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/07/13 14:59		H1
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	19.1	mg/L	15.0	30		02/11/13 17:49	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	538	mg/L	20.0	1		02/14/13 10:14	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: VW-2-020513	Lab ID: 60138182003	Collected: 02/05/13 11:35	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/11/13 15:21	74-84-0	
Ethene	ND ug/L		6.2	1		02/11/13 15:21	74-85-1	
Methane	13.0 ug/L		6.6	1		02/11/13 15:21	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	607 ug/L		50.0	1	02/11/13 11:30	02/12/13 10:54	7439-89-6	
Manganese	48.1 ug/L		5.0	1	02/11/13 11:30	02/12/13 10:54	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/08/13 19:59	67-64-1	
Benzene	ND ug/L		1.0	1		02/08/13 19:59	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/08/13 19:59	75-15-0	
Chlorobenzene	80.7 ug/L		1.0	1		02/08/13 19:59	108-90-7	
Chloroform	ND ug/L		1.0	1		02/08/13 19:59	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/08/13 19:59	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 19:59	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 19:59	156-60-5	
Phenylbenzene	ND ug/L		1.0	1		02/08/13 19:59	100-41-4	
Dimethylane	ND ug/L		10.0	1		02/08/13 19:59	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/08/13 19:59	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/08/13 19:59	127-18-4	
Toluene	ND ug/L		1.0	1		02/08/13 19:59	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/08/13 19:59	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/08/13 19:59	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/08/13 19:59	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/08/13 19:59	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	1		02/08/13 19:59	460-00-4	
Dibromofluoromethane (S)	92 %		80-120	1		02/08/13 19:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		02/08/13 19:59	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		02/08/13 19:59	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 19:59		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1070 mg/L		40.0	2		02/11/13 11:45		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1860 mg/L		5.0	1		02/08/13 09:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/11/13 16:13	18496-25-8	

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Page 10 of 30

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: VW-2-020513	Lab ID: 60138182003	Collected: 02/05/13 11:35	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	13.1 mg/L		2.0	2		02/11/13 18:15	16887-00-6	
Sulfate	385 mg/L		20.0	20		02/11/13 17:22	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	3.0 mg/L		0.10	1		02/07/13 15:01		H1
Nitrogen, Nitrite	ND mg/L		0.10	1		02/07/13 15:01		H1
Nitrogen, NO2 plus NO3	3.1 mg/L		0.10	1		02/07/13 15:01		H1
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	87.0 mg/L		30.0	60		02/12/13 11:17	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	325 mg/L		20.0	1		02/14/13 10:14	124-38-9	



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: MW-24A-020513	Lab ID: 60138182004	Collected: 02/05/13 14:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	12.8	ug/L	6.2	1		02/11/13 15:32	74-84-0	
Ethene	ND	ug/L	6.2	1		02/11/13 15:32	74-85-1	
Methane	1600	ug/L	6.6	1		02/11/13 15:32	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	77500	ug/L	50.0	1	02/11/13 11:30	02/12/13 10:56	7439-89-6	
Manganese	4470	ug/L	5.0	1	02/11/13 11:30	02/12/13 10:56	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	50.0	5		02/12/13 12:16	67-64-1	
Benzene	6710	ug/L	50.0	50		02/08/13 20:43	71-43-2	
Carbon disulfide	ND	ug/L	25.0	5		02/12/13 12:16	75-15-0	
Chlorobenzene	1470	ug/L	50.0	50		02/08/13 20:43	108-90-7	
Chloroform	ND	ug/L	5.0	5		02/12/13 12:16	67-66-3	
1,2-Dichloroethane	ND	ug/L	5.0	5		02/12/13 12:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	5.0	5		02/12/13 12:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	5		02/12/13 12:16	156-60-5	
Phenylbenzene	83.0	ug/L	5.0	5		02/12/13 12:16	100-41-4	
Dimethylane	ND	ug/L	50.0	5		02/12/13 12:16	74-88-4	
Methylene chloride	ND	ug/L	5.0	5		02/12/13 12:16	75-09-2	
Tetrachloroethene	ND	ug/L	5.0	5		02/12/13 12:16	127-18-4	
Toluene	63.8	ug/L	5.0	5		02/12/13 12:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	5		02/12/13 12:16	71-55-6	
Trichloroethene	ND	ug/L	5.0	5		02/12/13 12:16	79-01-6	
Vinyl chloride	ND	ug/L	5.0	5		02/12/13 12:16	75-01-4	
Xylene (Total)	122	ug/L	15.0	5		02/12/13 12:16	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	119	%	80-120	5		02/12/13 12:16	460-00-4	HS
Dibromofluoromethane (S)	95	%	80-120	5		02/12/13 12:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	80-120	5		02/12/13 12:16	17060-07-0	
Toluene-d8 (S)	92	%	80-120	5		02/12/13 12:16	2037-26-5	
Preservation pH	1.0		0.10	5		02/12/13 12:16		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	643	mg/L	20.0	1		02/11/13 09:46		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	900	mg/L	5.0	1		02/08/13 09:07		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	11.6	Std. Units	0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.077	mg/L	0.050	1		02/11/13 16:15	18496-25-8	

Date: 02/18/2013 04:36 PM

## REPORT OF LABORATORY ANALYSIS

Page 12 of 30

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: MW-24A-020513	Lab ID: 60138182004	Collected: 02/05/13 14:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	<b>99.4</b>	mg/L	10.0	10		02/11/13 18:51	16887-00-6	
Sulfate	<b>1.0</b>	mg/L	1.0	1		02/11/13 18:33	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/07/13 15:07		H5
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/07/13 15:07		H5
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/07/13 15:07		H5
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	<b>32.2</b>	mg/L	15.0	30		02/12/13 11:35	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	<b>566</b>	mg/L	20.0	1		02/14/13 10:14	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Sample: TB-2-020513      Lab ID: 60138182005      Collected: 02/05/13 00:00      Received: 02/07/13 08:00      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/08/13 17:35	67-64-1	
Benzene	ND ug/L		1.0	1		02/08/13 17:35	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/08/13 17:35	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/08/13 17:35	108-90-7	
Chloroform	ND ug/L		1.0	1		02/08/13 17:35	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/08/13 17:35	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 17:35	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 17:35	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/08/13 17:35	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/08/13 17:35	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/08/13 17:35	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/08/13 17:35	127-18-4	
Toluene	ND ug/L		1.0	1		02/08/13 17:35	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/08/13 17:35	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/08/13 17:35	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/08/13 17:35	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/08/13 17:35	1330-20-7	
<b>Surrogates</b>								
Bromofluorobenzene (S)	103 %		80-120	1		02/08/13 17:35	460-00-4	
Dibromofluoromethane (S)	94 %		80-120	1		02/08/13 17:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		02/08/13 17:35	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		02/08/13 17:35	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 17:35		

Date: 02/18/2013 04:36 PM

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Page 14 of 30

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: AIR/16760 Analysis Method: RSK 175

QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1376084 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/11/13 12:18	
Ethene	ug/L	ND	6.2	02/11/13 12:18	
Methane	ug/L	ND	6.6	02/11/13 12:18	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1376085 1376086

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	108	106	95	94	85-115	1	20	
Ethene	ug/L	106	99.3	100	94	94	85-115	.7	20	
Methane	ug/L	60.7	57.1	57.3	94	95	85-115	.5	20	

SAMPLE DUPLICATE: 1376196

Parameter	Units	5075794001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	7.3	ND		20	

SAMPLE DUPLICATE: 1376197

Parameter	Units	5075797001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	ND	ND		20	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: MPRP/21451 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1138758 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	02/12/13 10:39	
Manganese	ug/L	ND	5.0	02/12/13 10:39	

LABORATORY CONTROL SAMPLE: 1138759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1138760 1138761

Parameter	Units	60138300001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	51600	10000	10000	61500	58300	99	67	75-125	5	20	M6
Manganese	ug/L	810	1000	1000	1700	1730	89	92	75-125	2	20	

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## REPORT OF LABORATORY ANALYSIS

Page 16 of 30

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch:	MSV/51773	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60138182001, 60138182002, 60138182003, 60138182004, 60138182005		

METHOD BLANK: 1137818

Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004, 60138182005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/08/13 17:21	
1,2-Dichloroethane	ug/L	ND	1.0	02/08/13 17:21	
Acetone	ug/L	ND	10.0	02/08/13 17:21	
Benzene	ug/L	ND	1.0	02/08/13 17:21	
Carbon disulfide	ug/L	ND	5.0	02/08/13 17:21	
Chlorobenzene	ug/L	ND	1.0	02/08/13 17:21	
Chloroform	ug/L	ND	1.0	02/08/13 17:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Ethylbenzene	ug/L	ND	1.0	02/08/13 17:21	
Iodomethane	ug/L	ND	10.0	02/08/13 17:21	
Methylene chloride	ug/L	ND	1.0	02/08/13 17:21	
Tetrachloroethene	ug/L	ND	1.0	02/08/13 17:21	
Toluene	ug/L	ND	1.0	02/08/13 17:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Trichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Vinyl chloride	ug/L	ND	1.0	02/08/13 17:21	
Xylene (Total)	ug/L	ND	3.0	02/08/13 17:21	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/08/13 17:21	
4-Bromofluorobenzene (S)	%	102	80-120	02/08/13 17:21	
Dibromofluoromethane (S)	%	90	80-120	02/08/13 17:21	
Toluene-d8 (S)	%	98	80-120	02/08/13 17:21	

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.4	107	75-124	
1,2-Dichloroethane	ug/L	20	20.7	104	72-122	
Acetone	ug/L	100	71.4	71	60-126	
Benzene	ug/L	20	20.7	104	73-122	
Carbon disulfide	ug/L	20	17.6	88	62-125	
Chlorobenzene	ug/L	20	21.5	108	80-120	
Chloroform	ug/L	20	18.7	93	76-120	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	69-120	
Ethylbenzene	ug/L	20	20.5	103	76-123	
Iodomethane	ug/L	20	18.2	91	40-160	
Methylene chloride	ug/L	20	17.9	90	71-123	
Tetrachloroethene	ug/L	20	21.8	109	79-122	
Toluene	ug/L	20	20.5	103	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	78-126	
Trichloroethene	ug/L	20	21.1	106	76-120	
Vinyl chloride	ug/L	20	17.7	88	57-140	

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Page 17 of 30

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138182

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	63.9	107	76-122	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			94	80-120	
Toluene-d8 (S)	%			99	80-120	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: MSV/51824

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60138182004

METHOD BLANK: 1139276

Matrix: Water

Associated Lab Samples: 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/12/13 11:04	
1,2-Dichloroethane	ug/L	ND	1.0	02/12/13 11:04	
Acetone	ug/L	ND	10.0	02/12/13 11:04	
Carbon disulfide	ug/L	ND	5.0	02/12/13 11:04	
Chloroform	ug/L	ND	1.0	02/12/13 11:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Ethylbenzene	ug/L	ND	1.0	02/12/13 11:04	
Iodomethane	ug/L	ND	10.0	02/12/13 11:04	
Methylene chloride	ug/L	ND	1.0	02/12/13 11:04	
Tetrachloroethene	ug/L	ND	1.0	02/12/13 11:04	
Toluene	ug/L	ND	1.0	02/12/13 11:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Trichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Vinyl chloride	ug/L	ND	1.0	02/12/13 11:04	
Xylene (Total)	ug/L	ND	3.0	02/12/13 11:04	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/12/13 11:04	
4-Bromofluorobenzene (S)	%	102	80-120	02/12/13 11:04	
Dibromofluoromethane (S)	%	94	80-120	02/12/13 11:04	
Toluene-d8 (S)	%	99	80-120	02/12/13 11:04	

LABORATORY CONTROL SAMPLE: 1139277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.8	114	75-124	
1,2-Dichloroethane	ug/L	20	22.1	111	72-122	
Acetone	ug/L	100	72.8	73	60-126	
Carbon disulfide	ug/L	20	19.0	95	62-125	
Chloroform	ug/L	20	20.3	102	76-120	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	69-120	
Ethylbenzene	ug/L	20	22.5	112	76-123	
Iodomethane	ug/L	20	19.5	98	40-160	
Methylene chloride	ug/L	20	18.7	94	71-123	
Tetrachloroethene	ug/L	20	23.4	117	79-122	
Toluene	ug/L	20	22.8	114	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.9	104	78-126	
Trichloroethene	ug/L	20	23.4	117	76-120	
Vinyl chloride	ug/L	20	18.6	93	57-140	
Xylene (Total)	ug/L	60	69.3	116	76-122	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			95	80-120	

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Page 19 of 30



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

LABORATORY CONTROL SAMPLE: 1139277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			99	80-120	

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## REPORT OF LABORATORY ANALYSIS

Page 20 of 30

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: WET/39641 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1137458 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/11/13 09:06	

LABORATORY CONTROL SAMPLE: 1137459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	523	105	90-110	

SAMPLE DUPLICATE: 1137460

Parameter	Units	60138300001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	32.9	27.7	17	10	D6

SAMPLE DUPLICATE: 1137461

Parameter	Units	60138117004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	264	278	5	10	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

QC Batch: WET/39642 Analysis Method: SM 2540C  
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids  
Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1137465 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/08/13 09:06	

SAMPLE DUPLICATE: 1137466

Parameter	Units	6013830001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	321000	323000	1	17	

SAMPLE DUPLICATE: 1137467

Parameter	Units	60138203002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2440	2320	5	17	

Date: 02/18/2013 04:36 PM

## REPORT OF LABORATORY ANALYSIS

Page 22 of 30

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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: WET/39633 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

SAMPLE DUPLICATE: 1137378

Parameter	Units	60138182001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138182

---

QC Batch:	WET/39665	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004			

---

METHOD BLANK: 1138722                          Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/11/13 16:12	

---

LABORATORY CONTROL SAMPLE: 1138723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.50	99	80-120	

---

MATRIX SPIKE SAMPLE: 1138724

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.43	77	75-125	

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Page 24 of 30

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: WETA/23486 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1138785 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/11/13 15:18	
Sulfate	mg/L	ND	1.0	02/11/13 15:18	

LABORATORY CONTROL SAMPLE: 1138786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1138787 1138788

Parameter	Units	60138182001 Result	MS	MSD	MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.							
Chloride	mg/L	15.4	25	25	37.9	39.0	90	94	64-118	3	12
Sulfate	mg/L	86.0	25	25	107	111	85	102	61-119	4	10

MATRIX SPIKE SAMPLE: 1138789

Parameter	Units	60138203003 Result	Spike	MS	MS % Rec	% Rec Limits	Qualifiers
			Conc.	Result			
Chloride	mg/L	213	100	308	96	64-118	
Sulfate	mg/L	19.7	5	24.7	100	61-119	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: WETA/23459 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 1136697

Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/07/13 14:56	
Nitrogen, Nitrite	mg/L	ND	0.10	02/07/13 14:56	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/07/13 14:56	

LABORATORY CONTROL SAMPLE: 1136698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	107	90-110	
Nitrogen, Nitrite	mg/L	.4	0.42	104	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1136699

Parameter	Units	60138117006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.36	1.6	2.2	116	90-110	M0
Nitrogen, Nitrite	mg/L	0.11	.4	0.58	118	90-110	M0
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.47	2	2.8	116	90-110	M0

MATRIX SPIKE SAMPLE: 1136701

Parameter	Units	60138179001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.19	1.6	2.0	115	90-110	M0
Nitrogen, Nitrite	mg/L	ND	.4	0.49	118	90-110	M0
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.20	2	2.5	115	90-110	M0

SAMPLE DUPLICATE: 1136700

Parameter	Units	60138179002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.65	0.63	3	15	
Nitrogen, Nitrite	mg/L	0.13	0.12	6	31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.78	0.75	3	13	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

QC Batch: WETA/16234 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

METHOD BLANK: 747863 Matrix: Water

Associated Lab Samples: 60138182001, 60138182002, 60138182003, 60138182004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/11/13 14:10	

LABORATORY CONTROL SAMPLE: 747864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 747865 747866

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	46.6	150	150	211	209	109	108	80-120	1	20

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 747867 747868

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	1.7	5	5	6.6	6.6	97	97	80-120	0	20

## QUALIFIERS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/51773

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51824

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- H1 Analysis conducted outside the EPA method holding time.
- H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138182

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138182001	FBCSA-MW-5-020513	RSK 175	AIR/16760		
60138182002	VW-1-020513	RSK 175	AIR/16760		
60138182003	VW-2-020513	RSK 175	AIR/16760		
60138182004	MW-24A-020513	RSK 175	AIR/16760		
60138182001	FBCSA-MW-5-020513	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138182002	VW-1-020513	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138182003	VW-2-020513	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138182004	MW-24A-020513	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138182001	FBCSA-MW-5-020513	EPA 5030B/8260	MSV/51773		
60138182002	VW-1-020513	EPA 5030B/8260	MSV/51773		
60138182003	VW-2-020513	EPA 5030B/8260	MSV/51773		
60138182004	MW-24A-020513	EPA 5030B/8260	MSV/51773		
60138182004	MW-24A-020513	EPA 5030B/8260	MSV/51824		
60138182005	TB-2-020513	EPA 5030B/8260	MSV/51773		
60138182001	FBCSA-MW-5-020513	SM 2320B	WET/39641		
60138182002	VW-1-020513	SM 2320B	WET/39641		
60138182003	VW-2-020513	SM 2320B	WET/39641		
60138182004	MW-24A-020513	SM 2320B	WET/39641		
60138182001	FBCSA-MW-5-020513	SM 2540C	WET/39642		
60138182002	VW-1-020513	SM 2540C	WET/39642		
60138182003	VW-2-020513	SM 2540C	WET/39642		
60138182004	MW-24A-020513	SM 2540C	WET/39642		
60138182001	FBCSA-MW-5-020513	SM 4500-H+B	WET/39633		
60138182002	VW-1-020513	SM 4500-H+B	WET/39633		
60138182003	VW-2-020513	SM 4500-H+B	WET/39633		
60138182004	MW-24A-020513	SM 4500-H+B	WET/39633		
60138182001	FBCSA-MW-5-020513	SM 4500-S-2 D	WET/39665		
60138182002	VW-1-020513	SM 4500-S-2 D	WET/39665		
60138182003	VW-2-020513	SM 4500-S-2 D	WET/39665		
60138182004	MW-24A-020513	SM 4500-S-2 D	WET/39665		
60138182001	FBCSA-MW-5-020513	EPA 300.0	WETA/23486		
60138182002	VW-1-020513	EPA 300.0	WETA/23486		
60138182003	VW-2-020513	EPA 300.0	WETA/23486		
60138182004	MW-24A-020513	EPA 300.0	WETA/23486		
60138182001	FBCSA-MW-5-020513	EPA 353.2	WETA/23459		
60138182002	VW-1-020513	EPA 353.2	WETA/23459		
60138182003	VW-2-020513	EPA 353.2	WETA/23459		
60138182004	MW-24A-020513	EPA 353.2	WETA/23459		
60138182001	FBCSA-MW-5-020513	SM 5310C	WETA/16234		
60138182002	VW-1-020513	SM 5310C	WETA/16234		
60138182003	VW-2-020513	SM 5310C	WETA/16234		
60138182004	MW-24A-020513	SM 5310C	WETA/16234		
60138182001	FBCSA-MW-5-020513	SM 4500-CO2 D	WETA/23537		

Date: 02/18/2013 04:36 PM

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Page 29 of 30



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138182

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138182002	VW-1-020513	SM 4500-CO2 D	WETA/23537		
60138182003	VW-2-020513	SM 4500-CO2 D	WETA/23537		
60138182004	MW-24A-020513	SM 4500-CO2 D	WETA/23537		

Date: 02/18/2013 04:36 PM

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Page 30 of 30



## **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page: _____ of _____	
Company: Environmental Operations		Report To: Larry Rosen		Attention:			
Address: 1530 S. Second St. Ste. 200  St. Louis, MO 63104		Copy To:		Company Name:			
				Address:			
Email To: larryr@environmentalops.com		Purchase Order No.:		Pack Quote Reference:		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
Phone: 314-241-0900   Fax: 314-436-2900		Project Name: Solutia Groundwater		Pack Project Manager: Jamie Slade		<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER   POTW _____	
Requested Due Date/TAT:		Project Number:		Pack Profile #:		Site Location: MO	
						STATE: _____	

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on ice (Y/N)	On-the-body Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:	<i>Jay P. Tyrosalas</i>		DATE Signed (MM/DD/YY):	<i>3/6/13</i>			
SIGNATURE of SAMPLER:	<i>[Signature]</i>						

**\*Important:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any amount not paid within 30 days.



## Sample Condition Upon Receipt

WO# : 60138182



60138182

Client Name: Env. Ops.

Optional

Courier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  VIA

Proj Due Date:

Tracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No 

Proj Name:

Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  2PLCThermometer Used: T-112 / T-194 Type of Ice:  Wet Blue None  Samples received on ice, cooling process has begun.

Cooler Temperature: 2.6

(circle one)

Date and initials of person examining contents: 2/7/13 P.A.

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. No 3
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses	Matrix: wet	13.
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: <input checked="" type="checkbox"/> VOA coliform, <input checked="" type="checkbox"/> TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased): 121712-3		15.
Headspace in VOA vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16. 26f3 MW24 A
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 2/7/13



Pace Analytical Services, Inc.

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Lenexa, KS 66219

(913)599-5665

February 14, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138203

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



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Page 1 of 27

PacePackage P. 1 of 29



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## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138203

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nebraska Certification #: Pace  
Nevada Certification #: MN\_00064  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334

New York Certification #: 11888  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2  
Illinois Certification #: 003097

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Page 2 of 27

## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138203001	OBW-2-020613	Water	02/06/13 09:32	02/07/13 08:00
60138203002	OBW-1-020613	Water	02/06/13 11:32	02/07/13 08:00
60138203003	MW-24B-020613	Water	02/06/13 14:43	02/07/13 08:00
60138203004	TB-3-020613	Water	02/06/13 00:00	02/07/13 08:00

## REPORT OF LABORATORY ANALYSIS

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Page 3 of 27

## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138203

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138203001	OBW-2-020613	RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138203002	OBW-1-020613	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	NDL	3	PASI-K
60138203003	MW-24B-020613	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	DJR	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138203004	TB-3-020613	EPA 353.2	NDL	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K

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Page 4 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

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Sample: OBW-2-020613      Lab ID: 60138203001      Collected: 02/06/13 09:32      Received: 02/07/13 08:00      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/11/13 13:45	74-84-0	
Ethene	ND ug/L		6.2	1		02/11/13 13:45	74-85-1	
Methane	ND ug/L		6.6	1		02/11/13 13:45	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	225 ug/L		50.0	1	02/11/13 11:30	02/12/13 10:59	7439-89-6	
Manganese	37.2 ug/L		5.0	1	02/11/13 11:30	02/12/13 10:59	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		500	50		02/12/13 11:47	67-64-1	
Benzene	ND ug/L		50.0	50		02/12/13 11:47	71-43-2	
Carbon disulfide	ND ug/L		250	50		02/12/13 11:47	75-15-0	
Chlorobenzene	1210 ug/L		50.0	50		02/12/13 11:47	108-90-7	
Chloroform	ND ug/L		50.0	50		02/12/13 11:47	67-66-3	
1,2-Dichloroethane	ND ug/L		50.0	50		02/12/13 11:47	107-06-2	
cis-1,2-Dichloroethene	43000 ug/L		500	500		02/12/13 12:01	156-59-2	
trans-1,2-Dichloroethene	348 ug/L		50.0	50		02/12/13 11:47	156-60-5	
Ethylbenzene	ND ug/L		50.0	50		02/12/13 11:47	100-41-4	
Iodomethane	ND ug/L		500	50		02/12/13 11:47	74-88-4	
Methylene chloride	ND ug/L		50.0	50		02/12/13 11:47	75-09-2	
Tetrachloroethene	2820 ug/L		50.0	50		02/12/13 11:47	127-18-4	
Toluene	ND ug/L		50.0	50		02/12/13 11:47	108-88-3	
1,1,1-Trichloroethane	ND ug/L		50.0	50		02/12/13 11:47	71-55-6	
Trichloroethene	7950 ug/L		50.0	50		02/12/13 11:47	79-01-6	
Vinyl chloride	207 ug/L		50.0	50		02/12/13 11:47	75-01-4	
Xylene (Total)	ND ug/L		150	50		02/12/13 11:47	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	50		02/12/13 11:47	460-00-4	
Dibromofluoromethane (S)	96 %		80-120	50		02/12/13 11:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	50		02/12/13 11:47	17060-07-0	
Toluene-d8 (S)	98 %		80-120	50		02/12/13 11:47	2037-26-5	
Preservation pH	1.0		0.10	50		02/12/13 11:47		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	257 mg/L		20.0	1		02/11/13 09:52		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	485 mg/L		5.0	1		02/08/13 09:08		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0 Std. Units		0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/11/13 16:15	18496-25-8	

Date: 02/14/2013 03:28 PM

## REPORT OF LABORATORY ANALYSIS

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Page 5 of 27



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: OBW-2-020613	Lab ID: 60138203001	Collected: 02/06/13 09:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	112	mg/L	10.0	10		02/11/13 19:26	16887-00-6	
Sulfate	15.6	mg/L	2.0	2		02/11/13 19:08	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/07/13 17:22		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/07/13 17:22		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/07/13 17:22		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.7	mg/L	1.0	2		02/11/13 16:00	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	278	mg/L	20.0	1		02/14/13 10:14	124-38-9	

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Page 6 of 27

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: OBW-1-020613	Lab ID: 60138203002	Collected: 02/06/13 11:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	10.4	ug/L	6.2	1		02/11/13 13:56	74-84-0	
Ethene	49.5	ug/L	6.2	1		02/11/13 13:56	74-85-1	
Methane	168	ug/L	6.6	1		02/11/13 13:56	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	116	ug/L	50.0	1	02/11/13 11:30	02/12/13 11:05	7439-89-6	
Manganese	96.6	ug/L	5.0	1	02/11/13 11:30	02/12/13 11:05	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	250	25		02/12/13 11:18	67-64-1	
Benzene	ND	ug/L	25.0	25		02/12/13 11:18	71-43-2	
Carbon disulfide	ND	ug/L	125	25		02/12/13 11:18	75-15-0	
Chlorobenzene	1740	ug/L	25.0	25		02/12/13 11:18	108-90-7	
Chloroform	ND	ug/L	25.0	25		02/12/13 11:18	67-66-3	
1,2-Dichloroethane	ND	ug/L	25.0	25		02/12/13 11:18	107-06-2	
cis-1,2-Dichloroethene	908	ug/L	25.0	25		02/12/13 11:18	156-59-2	
trans-1,2-Dichloroethene	76.3	ug/L	25.0	25		02/12/13 11:18	156-60-5	
Ethylbenzene	ND	ug/L	25.0	25		02/12/13 11:18	100-41-4	
Iodomethane	ND	ug/L	250	25		02/12/13 11:18	74-88-4	
Methylene chloride	ND	ug/L	25.0	25		02/12/13 11:18	75-09-2	
Tetrachloroethene	80.3	ug/L	25.0	25		02/12/13 11:18	127-18-4	
Toluene	47.9	ug/L	25.0	25		02/12/13 11:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	25.0	25		02/12/13 11:18	71-55-6	
Trichloroethene	507	ug/L	25.0	25		02/12/13 11:18	79-01-6	
Vinyl chloride	24000	ug/L	500	500		02/08/13 21:27	75-01-4	
Xylene (Total)	ND	ug/L	75.0	25		02/12/13 11:18	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104	%	80-120	25		02/12/13 11:18	460-00-4	
Dibromofluoromethane (S)	97	%	80-120	25		02/12/13 11:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	80-120	25		02/12/13 11:18	17060-07-0	
Toluene-d8 (S)	96	%	80-120	25		02/12/13 11:18	2037-26-5	
Preservation pH	1.0		0.10	25		02/12/13 11:18		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	711	mg/L	20.0	1		02/11/13 10:00		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	2440	mg/L	5.0	1		02/08/13 09:08		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9	Std. Units	0.10	1		02/07/13 17:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	8.0	mg/L	0.25	1		02/11/13 16:16	18496-25-8	

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Page 7 of 27



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: OBW-1-020613	Lab ID: 60138203002	Collected: 02/06/13 11:32	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	481 mg/L		50.0	50		02/11/13 20:01	16887-00-6	
Sulfate	2.0 mg/L		1.0	1		02/11/13 19:44	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		02/07/13 17:28		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/07/13 17:28		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		02/07/13 17:28		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	645 mg/L		150	300		02/11/13 16:54	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	805 mg/L		20.0	1		02/14/13 10:14	124-38-9	

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Page 8 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: MW-24B-020613	Lab ID: 60138203003	Collected: 02/06/13 14:43	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	6.9	ug/L	6.2	1		02/11/13 14:06	74-84-0	
Ethene	7.5	ug/L	6.2	1		02/11/13 14:06	74-85-1	
Methane	986	ug/L	6.6	1		02/11/13 14:06	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	388000	ug/L	50.0	1	02/11/13 11:30	02/12/13 11:07	7439-89-6	
Manganese	7500	ug/L	5.0	1	02/11/13 11:30	02/12/13 11:07	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	500	50		02/08/13 21:55	67-64-1	
Benzene	15500	ug/L	5000	5000		02/12/13 11:33	71-43-2	
Carbon disulfide	ND	ug/L	250	50		02/08/13 21:55	75-15-0	
Chlorobenzene	398000	ug/L	5000	5000		02/12/13 11:33	108-90-7	
Chloroform	ND	ug/L	50.0	50		02/08/13 21:55	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	50		02/08/13 21:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		02/08/13 21:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	50.0	50		02/08/13 21:55	156-60-5	
Ethylbenzene	570	ug/L	50.0	50		02/08/13 21:55	100-41-4	
Iodomethane	ND	ug/L	500	50		02/08/13 21:55	74-88-4	
Methylene chloride	ND	ug/L	50.0	50		02/08/13 21:55	75-09-2	
Tetrachloroethene	ND	ug/L	50.0	50		02/08/13 21:55	127-18-4	
Toluene	5640	ug/L	50.0	50		02/08/13 21:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	50.0	50		02/08/13 21:55	71-55-6	
Trichloroethene	ND	ug/L	50.0	50		02/08/13 21:55	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		02/08/13 21:55	75-01-4	
Xylene (Total)	3030	ug/L	150	50		02/08/13 21:55	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101	%	80-120	50		02/08/13 21:55	460-00-4	
Dibromofluoromethane (S)	94	%	80-120	50		02/08/13 21:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120	50		02/08/13 21:55	17060-07-0	
Toluene-d8 (S)	107	%	80-120	50		02/08/13 21:55	2037-26-5	
Preservation pH	1.0		0.10	50		02/08/13 21:55		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	791	mg/L	20.0	1		02/11/13 10:21		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1430	mg/L	5.0	1		02/08/13 09:09		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		02/11/13 14:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.62	mg/L	0.050	1		02/11/13 16:16	18496-25-8	

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Page 9 of 27



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: MW-24B-020613	Lab ID: 60138203003	Collected: 02/06/13 14:43	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	213 mg/L		20.0	20		02/11/13 20:37	16887-00-6	
Sulfate	19.7 mg/L		1.0	1		02/11/13 20:19	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		02/07/13 17:31		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/07/13 17:31		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		02/07/13 17:31		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	85.2 mg/L		30.0	60		02/12/13 10:58	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	760 mg/L		20.0	1		02/14/13 10:14	124-38-9	

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Page 10 of 27

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Sample: TB-3-020613	Lab ID: 60138203004	Collected: 02/06/13 00:00	Received: 02/07/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/08/13 17:50	67-64-1	
Benzene	ND ug/L		1.0	1		02/08/13 17:50	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/08/13 17:50	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/08/13 17:50	108-90-7	
Chloroform	ND ug/L		1.0	1		02/08/13 17:50	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/08/13 17:50	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 17:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/08/13 17:50	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/08/13 17:50	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/08/13 17:50	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/08/13 17:50	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/08/13 17:50	127-18-4	
Toluene	ND ug/L		1.0	1		02/08/13 17:50	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/08/13 17:50	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/08/13 17:50	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/08/13 17:50	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/08/13 17:50	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	1		02/08/13 17:50	460-00-4	
Dibromofluoromethane (S)	95 %		80-120	1		02/08/13 17:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	1		02/08/13 17:50	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		02/08/13 17:50	2037-26-5	
Preservation pH	1.0		0.10	1		02/08/13 17:50		



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: AIR/16760 Analysis Method: RSK 175

QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1376084 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/11/13 12:18	
Ethene	ug/L	ND	6.2	02/11/13 12:18	
Methane	ug/L	ND	6.6	02/11/13 12:18	

LABORATORY CONTROL SAMPLE & LCSD: 1376085 1376086

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	Max RPD	Max RPD	Qualifiers
Ethane	ug/L	114	108	106	95	94	85-115	1	20	
Ethene	ug/L	106	99.3	100	94	94	85-115	.7	20	
Methane	ug/L	60.7	57.1	57.3	94	95	85-115	.5	20	

SAMPLE DUPLICATE: 1376196

Parameter	Units	5075794001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	7.3	ND		20	

SAMPLE DUPLICATE: 1376197

Parameter	Units	5075797001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	ND	ND		20	

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Page 12 of 27

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: MPRP/21451 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1138758 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	02/12/13 10:39	
Manganese	ug/L	ND	5.0	02/12/13 10:39	

LABORATORY CONTROL SAMPLE: 1138759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1020	102	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1138760 1138761

Parameter	Units	60138300001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	51600	10000	10000	61500	58300	99	67	75-125	5	20	M6
Manganese	ug/L	810	1000	1000	1700	1730	89	92	75-125	2	20	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: MSV/51773 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138203002, 60138203003, 60138203004

METHOD BLANK: 1137818 Matrix: Water

Associated Lab Samples: 60138203002, 60138203003, 60138203004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/08/13 17:21	
1,2-Dichloroethane	ug/L	ND	1.0	02/08/13 17:21	
Acetone	ug/L	ND	10.0	02/08/13 17:21	
Benzene	ug/L	ND	1.0	02/08/13 17:21	
Carbon disulfide	ug/L	ND	5.0	02/08/13 17:21	
Chlorobenzene	ug/L	ND	1.0	02/08/13 17:21	
Chloroform	ug/L	ND	1.0	02/08/13 17:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Ethylbenzene	ug/L	ND	1.0	02/08/13 17:21	
Iodomethane	ug/L	ND	10.0	02/08/13 17:21	
Methylene chloride	ug/L	ND	1.0	02/08/13 17:21	
Tetrachloroethene	ug/L	ND	1.0	02/08/13 17:21	
Toluene	ug/L	ND	1.0	02/08/13 17:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Trichloroethene	ug/L	ND	1.0	02/08/13 17:21	
Vinyl chloride	ug/L	ND	1.0	02/08/13 17:21	
Xylene (Total)	ug/L	ND	3.0	02/08/13 17:21	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/08/13 17:21	
4-Bromofluorobenzene (S)	%	102	80-120	02/08/13 17:21	
Dibromofluoromethane (S)	%	90	80-120	02/08/13 17:21	
Toluene-d8 (S)	%	98	80-120	02/08/13 17:21	

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.4	107	75-124	
1,2-Dichloroethane	ug/L	20	20.7	104	72-122	
Acetone	ug/L	100	71.4	71	60-126	
Benzene	ug/L	20	20.7	104	73-122	
Carbon disulfide	ug/L	20	17.6	88	62-125	
Chlorobenzene	ug/L	20	21.5	108	80-120	
Chloroform	ug/L	20	18.7	93	76-120	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	69-120	
Ethylbenzene	ug/L	20	20.5	103	76-123	
Iodomethane	ug/L	20	18.2	91	40-160	
Methylene chloride	ug/L	20	17.9	90	71-123	
Tetrachloroethene	ug/L	20	21.8	109	79-122	
Toluene	ug/L	20	20.5	103	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	78-126	
Trichloroethene	ug/L	20	21.1	106	76-120	
Vinyl chloride	ug/L	20	17.7	88	57-140	

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Page 14 of 27

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

LABORATORY CONTROL SAMPLE: 1137819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	63.9	107	76-122	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			94	80-120	
Toluene-d8 (S)	%			99	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: MSV/51824 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1139276 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/12/13 11:04	
1,2-Dichloroethane	ug/L	ND	1.0	02/12/13 11:04	
Acetone	ug/L	ND	10.0	02/12/13 11:04	
Benzene	ug/L	ND	1.0	02/12/13 11:04	
Carbon disulfide	ug/L	ND	5.0	02/12/13 11:04	
Chlorobenzene	ug/L	ND	1.0	02/12/13 11:04	
Chloroform	ug/L	ND	1.0	02/12/13 11:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Ethylbenzene	ug/L	ND	1.0	02/12/13 11:04	
Iodomethane	ug/L	ND	10.0	02/12/13 11:04	
Methylene chloride	ug/L	ND	1.0	02/12/13 11:04	
Tetrachloroethene	ug/L	ND	1.0	02/12/13 11:04	
Toluene	ug/L	ND	1.0	02/12/13 11:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Trichloroethene	ug/L	ND	1.0	02/12/13 11:04	
Vinyl chloride	ug/L	ND	1.0	02/12/13 11:04	
Xylene (Total)	ug/L	ND	3.0	02/12/13 11:04	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/12/13 11:04	
4-Bromofluorobenzene (S)	%	102	80-120	02/12/13 11:04	
Dibromofluoromethane (S)	%	94	80-120	02/12/13 11:04	
Toluene-d8 (S)	%	99	80-120	02/12/13 11:04	

LABORATORY CONTROL SAMPLE: 1139277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.8	114	75-124	
1,2-Dichloroethane	ug/L	20	22.1	111	72-122	
Acetone	ug/L	100	72.8	73	60-126	
Benzene	ug/L	20	22.8	114	73-122	
Carbon disulfide	ug/L	20	19.0	95	62-125	
Chlorobenzene	ug/L	20	22.9	114	80-120	
Chloroform	ug/L	20	20.3	102	76-120	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	69-120	
Ethylbenzene	ug/L	20	22.5	112	76-123	
Iodomethane	ug/L	20	19.5	98	40-160	
Methylene chloride	ug/L	20	18.7	94	71-123	
Tetrachloroethene	ug/L	20	23.4	117	79-122	
Toluene	ug/L	20	22.8	114	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.9	104	78-126	
Trichloroethene	ug/L	20	23.4	117	76-120	
Vinyl chloride	ug/L	20	18.6	93	57-140	

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Page 16 of 27

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

LABORATORY CONTROL SAMPLE: 1139277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	69.3	116	76-122	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			95	80-120	
Toluene-d8 (S)	%			99	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WET/39641 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1137458 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/11/13 09:06	

LABORATORY CONTROL SAMPLE: 1137459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	523	105	90-110	

SAMPLE DUPLICATE: 1137460

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	32.9	27.7	17	10	D6

SAMPLE DUPLICATE: 1137461

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	264	278	5	10	

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Page 18 of 27

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WET/39642 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1137465 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/08/13 09:06	

SAMPLE DUPLICATE: 1137466

Parameter	Units	6013830001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	321000	323000	1	17	

SAMPLE DUPLICATE: 1137467

Parameter	Units	60138203002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2440	2320	5	17	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WET/39633 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138203001, 60138203002

SAMPLE DUPLICATE: 1137378

Parameter	Units	60138182001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

Date: 02/14/2013 03:28 PM

## REPORT OF LABORATORY ANALYSIS

Page 20 of 27

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WET/39652 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138203003

SAMPLE DUPLICATE: 1138252

Parameter	Units	60138334001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	0	5	H6



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WET/39665 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1138722 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/11/13 16:12	

LABORATORY CONTROL SAMPLE: 1138723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.50	99	80-120	

MATRIX SPIKE SAMPLE: 1138724

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.43	77	75-125	

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Page 22 of 27

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WETA/23486 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1138785 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/11/13 15:18	
Sulfate	mg/L	ND	1.0	02/11/13 15:18	

LABORATORY CONTROL SAMPLE: 1138786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1138787 1138788

Parameter	Units	60138182001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.4	25	25	37.9	39.0	90	94	64-118	3	12	
Sulfate	mg/L	86.0	25	25	107	111	85	102	61-119	4	10	

MATRIX SPIKE SAMPLE: 1138789

Parameter	Units	60138203003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	213	100	308	96	64-118	
Sulfate	mg/L	19.7	5	24.7	100	61-119	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WETA/23463 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 1137206 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/07/13 17:16	
Nitrogen, Nitrite	mg/L	ND	0.10	02/07/13 17:16	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/07/13 17:16	

LABORATORY CONTROL SAMPLE: 1137207

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.6	100	90-110	
Nitrogen, Nitrite	mg/L	.4	0.40	100	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.0	100	90-110	

MATRIX SPIKE SAMPLE: 1137208

Parameter	Units	60138237001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.8	1.6	3.5	103	90-110	
Nitrogen, Nitrite	mg/L	0.028J	.4	0.45	105	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	1.9	2	3.9	103	90-110	

MATRIX SPIKE SAMPLE: 1137210

Parameter	Units	60138230001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	3.2	1.6	4.7	91	90-110	
Nitrogen, Nitrite	mg/L	0.052J	.4	0.49	110	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	3.2	2	5.1	95	90-110	

SAMPLE DUPLICATE: 1137209

Parameter	Units	60138186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.13	0.13	3	15	
Nitrogen, Nitrite	mg/L	ND	.025J		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.16	0.15	3	13	

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Page 24 of 27

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

QC Batch: WETA/16234 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60138203001, 60138203002, 60138203003

METHOD BLANK: 747863 Matrix: Water

Associated Lab Samples: 60138203001, 60138203002, 60138203003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/11/13 14:10	

LABORATORY CONTROL SAMPLE: 747864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	99	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 747865 747866

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	46.6	150	150	211	209	109	108	80-120	1	20

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 747867 747868

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	1.7	5	5	6.6	6.6	97	97	80-120	0	20



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## QUALIFIERS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138203

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/51773

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51824

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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## REPORT OF LABORATORY ANALYSIS

Page 26 of 27

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138203

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138203001	OBW-2-020613	RSK 175	AIR/16760		
60138203002	OBW-1-020613	RSK 175	AIR/16760		
60138203003	MW-24B-020613	RSK 175	AIR/16760		
60138203001	OBW-2-020613	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138203002	OBW-1-020613	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138203003	MW-24B-020613	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138203001	OBW-2-020613	EPA 5030B/8260	MSV/51824		
60138203002	OBW-1-020613	EPA 5030B/8260	MSV/51773		
60138203002	OBW-1-020613	EPA 5030B/8260	MSV/51824		
60138203003	MW-24B-020613	EPA 5030B/8260	MSV/51773		
60138203003	MW-24B-020613	EPA 5030B/8260	MSV/51824		
60138203004	TB-3-020613	EPA 5030B/8260	MSV/51773		
60138203001	OBW-2-020613	SM 2320B	WET/39641		
60138203002	OBW-1-020613	SM 2320B	WET/39641		
60138203003	MW-24B-020613	SM 2320B	WET/39641		
60138203001	OBW-2-020613	SM 2540C	WET/39642		
60138203002	OBW-1-020613	SM 2540C	WET/39642		
60138203003	MW-24B-020613	SM 2540C	WET/39642		
60138203001	OBW-2-020613	SM 4500-H+B	WET/39633		
60138203002	OBW-1-020613	SM 4500-H+B	WET/39633		
60138203003	MW-24B-020613	SM 4500-H+B	WET/39652		
60138203001	OBW-2-020613	SM 4500-S-2 D	WET/39665		
60138203002	OBW-1-020613	SM 4500-S-2 D	WET/39665		
60138203003	MW-24B-020613	SM 4500-S-2 D	WET/39665		
60138203001	OBW-2-020613	EPA 300.0	WETA/23486		
60138203002	OBW-1-020613	EPA 300.0	WETA/23486		
60138203003	MW-24B-020613	EPA 300.0	WETA/23486		
60138203001	OBW-2-020613	EPA 353.2	WETA/23463		
60138203002	OBW-1-020613	EPA 353.2	WETA/23463		
60138203003	MW-24B-020613	EPA 353.2	WETA/23463		
60138203001	OBW-2-020613	SM 5310C	WETA/16234		
60138203002	OBW-1-020613	SM 5310C	WETA/16234		
60138203003	MW-24B-020613	SM 5310C	WETA/16234		
60138203001	OBW-2-020613	SM 4500-CO2 D	WETA/23537		
60138203002	OBW-1-020613	SM 4500-CO2 D	WETA/23537		
60138203003	MW-24B-020613	SM 4500-CO2 D	WETA/23537		

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information:

Section B Required Project Information:		Section C Invoice Information:		Page: 1 of 1
Company: Environmental Operations		Report To: Larry Rosen		Attention:
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104		Copy To:		Company Name:
				Address:
Email To: larryr@environmentalops.com		Purchase Order No.:		Pace Quote Reference:
Phone: 314-241-0900 Fax: 314-436-2900		Project Name: Solutia Groundwater		Pace Project Manager: Jamie Slade
Requested Due Date/TAT:		Project Number:		Pace Profile #:
				Site Location: MO STATE: _____
				REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/> POTW

ITEM #	Section D Required Client Information	SAMPLE ID (A-Z, 0-9, .)		Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test Y/N	Requested Analysis Filtered (Y/N)											
		MATRIX	CODE	COMPOSITE START				COMPOSITE END/GRAB		H2SO4	HNO3			HCl	NaOH		Na2S2O3	Methanol	Other	8260 VOCs	6010 Fe, Mn	Sulfide	TOC	TDS	Carbon Dioxide	Sulfate/Chloride	Nitrate	Methane/Ethane/Ethene
1	CBW-2-C20613	WT	G			2/6	9:30						X	X	X	X	X	X	X	X	X	X	X	6/13/2013	Pace Project No./Lab I.D. 6/13/2013			
2	CBW-1-C20613	WT	G			2/6	11:32						Y	Y	Y	Y	Y	X	X	X	X	X	X	6/13/2013				
3	MW-24B-C20613	WT	G			2/6	14:43						Y	X	X	X	X	X	X	X	X	X	X	6/13/2013				
4	TG-3-C20613	WT	G			2/6	0:00						Y											6/13/2013				
5		WT	G																									
6		WT	G																									
7		WT	G																									
8		WT	G																									
9		WT	G																									
10		WT	G																									
11		WT	G																									
12		WT	G																									

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			
<i>Pace Analytical COI</i>		<i>Pace Analytical IPAC</i>		2/6	15:00	<i>100% ACCEPTABLE</i>		2/6/12	15:10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				2/6/13	17:00	<i>Jamie Slade LR</i>		2/6/13	0:00	2:0	Y	Y	Y

SAMPLER NAME AND SIGNATURE		Temp in °C
PRINT Name of SAMPLER: <i>John P. Prinsel, Jr.</i>		Received on Ice (Y/N)
SIGNATURE of SAMPLER: <i>John P. Prinsel, Jr.</i>	DATE Signed (MM/DD/YY): <i>2/6/13</i>	Custody Sealed Cooler (Y/N)
		Samples intact (Y/N)



## Sample Condition Upon Receipt

WO# : 60138203



60138203

Client Name: Env. Operations

Courier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  V/ATracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other 

Thermometer Used: 1-112 / T-194

Type of Ice: Yellow Blue None  Samples received on ice, cooling process has begun.

Cooler Temperature: 2.6

(circle one)

Temperature should be above freezing to 6°C

Optional

Proj Due Date:

Proj Name:

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>N/A</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>No Labels!!</u>
Includes date/time/ID/analyses	Matrix: water	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>TBA</u> Lot # of added preservative
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 2/7/13



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

February 19, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
A2LA Certification #: 2926.01  
Alaska Certification #: UST-078  
Alaska Certification #MN00064  
Arizona Certification #: AZ-0014  
Arkansas Certification #: 88-0680  
California Certification #: 01155CA  
Colorado Certification #Pace  
Connecticut Certification #: PH-0256  
EPA Region 8 Certification #: Pace  
Florida/NELAP Certification #: E87605  
Georgia Certification #: 959  
Hawaii Certification #Pace  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Kansas Certification #: E-10167  
Louisiana Certification #: 03086  
Louisiana Certification #: LA080009  
Maine Certification #: 2007029  
Maryland Certification #: 322  
Michigan DEQ Certification #: 9909  
Minnesota Certification #: 027-053-137  
Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
Nebraska Certification #: Pace  
Nevada Certification #: MN\_00064  
New Jersey Certification #: MN-002  
New York Certification #: 11647  
North Carolina Certification #: 530  
North Dakota Certification #: R-036  
North Dakota Certification #: R-036A  
Ohio VAP Certification #: CL101  
Oklahoma Certification #: 9507  
Oregon Certification #: MN200001  
Oregon Certification #: MN300001  
Pennsylvania Certification #: 68-00563  
Puerto Rico Certification  
Tennessee Certification #: 02818  
Texas Certification #: T104704192  
Utah Certification #: MN00064  
Virginia/DCLS Certification #: 002521  
Virginia/VELAP Certification #: 460163  
Washington Certification #: C754  
West Virginia Certification #: 382  
Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334

New York Certification #: 11888  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
A2LA Certification #: 2456.01  
Arkansas Certification #: 12-019-0  
Illinois Certification #: 002885  
Iowa Certification #: 118  
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
Nevada Certification #: KS000212008A  
Oklahoma Certification #: 9205/9935  
Texas Certification #: T104704407-12-3  
Utah Certification #: KS000212012-2  
Illinois Certification #: 003097

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Lenexa, KS 66219  
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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138354001	LPZ-2-020713	Water	02/07/13 11:05	02/08/13 08:00
60138354002	LPZ-4-020713	Water	02/07/13 14:05	02/08/13 08:00
60138354003	LPZ-5-020713	Water	02/07/13 09:40	02/08/13 08:00
60138354004	REC-1-020713	Water	02/07/13 12:15	02/08/13 08:00
60138354005	TB-4-020713	Water	02/07/13 00:00	02/08/13 08:00

## REPORT OF LABORATORY ANALYSIS

Page 3 of 34

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138354001	LPZ-2-020713	RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	DJR	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138354002	LPZ-4-020713	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	DJR	3	PASI-K
60138354003	LPZ-5-020713	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138354004	REC-1-020713	EPA 353.2	DJR	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

### REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	DJR	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
60138354005	TB-4-020713	EPA 5030B/8260	JTK	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: LPZ-2-020713	Lab ID: 60138354001	Collected: 02/07/13 11:05	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	55.3 ug/L		6.2	1		02/12/13 12:50	74-84-0	
Ethene	ND ug/L		6.2	1		02/12/13 12:50	74-85-1	
Methane	10800 ug/L		6.6	1		02/12/13 12:50	74-82-8	E
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	27200 ug/L		50.0	1	02/11/13 11:30	02/12/13 11:10	7439-89-6	
Manganese	3030 ug/L		5.0	1	02/11/13 11:30	02/12/13 11:10	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	25.2 ug/L		10.0	1		02/11/13 13:07	67-64-1	
Benzene	16.8 ug/L		1.0	1		02/11/13 13:07	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/11/13 13:07	75-15-0	
Chlorobenzene	19.9 ug/L		1.0	1		02/11/13 13:07	108-90-7	
Chloroform	ND ug/L		1.0	1		02/11/13 13:07	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/11/13 13:07	107-06-2	
cis-1,2-Dichloroethene	116 ug/L		1.0	1		02/11/13 13:07	156-59-2	
trans-1,2-Dichloroethene	4.8 ug/L		1.0	1		02/11/13 13:07	156-60-5	
Ethylbenzene	2.2 ug/L		1.0	1		02/11/13 13:07	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/11/13 13:07	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/11/13 13:07	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/11/13 13:07	127-18-4	
Toluene	4130 ug/L		100	100		02/12/13 15:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/11/13 13:07	71-55-6	
Trichloroethene	3.6 ug/L		1.0	1		02/11/13 13:07	79-01-6	
Vinyl chloride	45.1 ug/L		1.0	1		02/11/13 13:07	75-01-4	
Xylene (Total)	5.4 ug/L		3.0	1		02/11/13 13:07	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	94 %		80-120	1		02/11/13 13:07	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		02/11/13 13:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		80-120	1		02/11/13 13:07	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		02/11/13 13:07	2037-26-5	
Preservation pH	1.0		0.10	1		02/11/13 13:07		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	953 mg/L		20.0	1		02/13/13 08:25		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1210 mg/L		5.0	1		02/12/13 16:19		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		02/11/13 14:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.29 mg/L		0.050	1		02/11/13 16:19	18496-25-8	



Pace Analytical Services, Inc.  
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Lenexa, KS 66219  
(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: LPZ-2-020713	Lab ID: 60138354001	Collected: 02/07/13 11:05	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	39.5	mg/L	5.0	5		02/12/13 15:45	16887-00-6	
Sulfate	2.2	mg/L	1.0	1		02/12/13 15:30	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/08/13 16:14		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/08/13 16:14		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/08/13 16:14		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	109	mg/L	50.0	100		02/13/13 11:32	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	959	mg/L	20.0	1		02/19/13 09:05	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: LPZ-4-020713	Lab ID: 60138354002	Collected: 02/07/13 14:05	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	6.5 ug/L		6.2	1		02/12/13 13:01	74-84-0	
Ethene	106 ug/L		6.2	1		02/12/13 13:01	74-85-1	
Methane	2120 ug/L		6.6	1		02/12/13 13:01	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	16000 ug/L		50.0	1	02/11/13 11:30	02/12/13 11:12	7439-89-6	
Manganese	263 ug/L		5.0	1	02/11/13 11:30	02/12/13 11:12	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		500	50		02/11/13 13:22	67-64-1	
Benzene	ND ug/L		50.0	50		02/11/13 13:22	71-43-2	
Carbon disulfide	ND ug/L		250	50		02/11/13 13:22	75-15-0	
Chlorobenzene	922 ug/L		50.0	50		02/11/13 13:22	108-90-7	
Chloroform	ND ug/L		50.0	50		02/11/13 13:22	67-66-3	
1,2-Dichloroethane	ND ug/L		50.0	50		02/11/13 13:22	107-06-2	
cis-1,2-Dichloroethene	1190 ug/L		50.0	50		02/11/13 13:22	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		50.0	50		02/11/13 13:22	156-60-5	
Ethylbenzene	ND ug/L		50.0	50		02/11/13 13:22	100-41-4	
Iodomethane	ND ug/L		500	50		02/11/13 13:22	74-88-4	
Methylene chloride	ND ug/L		50.0	50		02/11/13 13:22	75-09-2	
Tetrachloroethene	2070 ug/L		50.0	50		02/11/13 13:22	127-18-4	
Toluene	65200 ug/L		500	500		02/11/13 13:38	108-88-3	
1,1,1-Trichloroethane	ND ug/L		50.0	50		02/11/13 13:22	71-55-6	
Trichloroethene	282 ug/L		50.0	50		02/11/13 13:22	79-01-6	
Vinyl chloride	87.2 ug/L		50.0	50		02/11/13 13:22	75-01-4	
Xylene (Total)	ND ug/L		150	50		02/11/13 13:22	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	50		02/11/13 13:22	460-00-4	
Dibromofluoromethane (S)	100 %		80-120	50		02/11/13 13:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		80-120	50		02/11/13 13:22	17060-07-0	
Toluene-d8 (S)	99 %		80-120	50		02/11/13 13:22	2037-26-5	
Preservation pH	1.0		0.10	50		02/11/13 13:22		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	4120 mg/L		120	6		02/15/13 09:41		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	4530 mg/L		5.0	1		02/12/13 16:19		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	10.5 Std. Units		0.10	1		02/11/13 12:30		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/11/13 16:19	18496-25-8	

Date: 02/19/2013 09:32 AM

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Page 8 of 34

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

Sample: LPZ-4-020713	Lab ID: 60138354002	Collected: 02/07/13 14:05	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	10 mg/L		1.0	1		02/12/13 16:32	16887-00-6	
Sulfate	253 mg/L		20.0	20		02/12/13 16:47	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.61 mg/L		0.10	1		02/08/13 16:17		
Nitrogen, Nitrite	0.45 mg/L		0.10	1		02/08/13 16:17		
Nitrogen, NO2 plus NO3	1.1 mg/L		0.10	1		02/08/13 16:17		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	18.8 mg/L		15.0	30		02/13/13 11:50	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	2020 mg/L		20.0	1		02/19/13 09:05	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: LPZ-5-020713	Lab ID: 60138354003	Collected: 02/07/13 09:40	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	53.1	ug/L	6.2	1		02/12/13 13:11	74-84-0	
Ethene	120	ug/L	6.2	1		02/12/13 13:11	74-85-1	
Methane	6020	ug/L	6.6	1		02/12/13 13:11	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	85000	ug/L	50.0	1	02/11/13 11:30	02/12/13 11:14	7439-89-6	
Manganese	2630	ug/L	5.0	1	02/11/13 11:30	02/12/13 11:14	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	250	25		02/11/13 14:09	67-64-1	
Benzene	ND	ug/L	25.0	25		02/11/13 14:09	71-43-2	
Carbon disulfide	ND	ug/L	125	25		02/11/13 14:09	75-15-0	
Chlorobenzene	30.2	ug/L	25.0	25		02/11/13 14:09	108-90-7	
Chloroform	ND	ug/L	25.0	25		02/11/13 14:09	67-66-3	
1,2-Dichloroethane	ND	ug/L	25.0	25		02/11/13 14:09	107-06-2	
cis-1,2-Dichloroethene	4780	ug/L	25.0	25		02/11/13 14:09	156-59-2	
trans-1,2-Dichloroethene	37.2	ug/L	25.0	25		02/11/13 14:09	156-60-5	
Ethylbenzene	ND	ug/L	25.0	25		02/11/13 14:09	100-41-4	
Iodomethane	ND	ug/L	250	25		02/11/13 14:09	74-88-4	
Methylene chloride	ND	ug/L	25.0	25		02/11/13 14:09	75-09-2	
Tetrachloroethene	ND	ug/L	25.0	25		02/11/13 14:09	127-18-4	
Toluene	185000	ug/L	2000	2000		02/13/13 13:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	25.0	25		02/11/13 14:09	71-55-6	
Trichloroethene	1010	ug/L	25.0	25		02/11/13 14:09	79-01-6	
Vinyl chloride	571	ug/L	25.0	25		02/11/13 14:09	75-01-4	
Xylene (Total)	ND	ug/L	75.0	25		02/11/13 14:09	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	92 %		80-120	25		02/11/13 14:09	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	25		02/11/13 14:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	96 %		80-120	25		02/11/13 14:09	17060-07-0	
Toluene-d8 (S)	97 %		80-120	25		02/11/13 14:09	2037-26-5	
Preservation pH	1.0		0.10	25		02/11/13 14:09		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	1140	mg/L	40.0	2		02/13/13 11:06		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1480	mg/L	5.0	1		02/12/13 16:20		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.9	Std. Units	0.10	1		02/11/13 14:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		02/11/13 16:20	18496-25-8	

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Page 10 of 34



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: LPZ-5-020713	Lab ID: 60138354003	Collected: 02/07/13 09:40	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	74.1	mg/L	5.0	5		02/12/13 17:03	16887-00-6	
Sulfate	73.1	mg/L	5.0	5		02/12/13 17:03	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/08/13 16:09		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/08/13 16:09		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/08/13 16:09		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	91.5	mg/L	30.0	60		02/13/13 13:40	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	936	mg/L	20.0	1		02/19/13 09:05	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: REC-1-020713	Lab ID: 60138354004	Collected: 02/07/13 12:15	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/12/13 13:22	74-84-0	
Ethene	ND ug/L		6.2	1		02/12/13 13:22	74-85-1	
Methane	1000 ug/L		6.6	1		02/12/13 13:22	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	13600 ug/L		50.0	1	02/11/13 11:30	02/12/13 11:16	7439-89-6	
Manganese	2700 ug/L		5.0	1	02/11/13 11:30	02/12/13 11:16	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/13/13 13:21	67-64-1	
Benzene	ND ug/L		1.0	1		02/13/13 13:21	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/13/13 13:21	75-15-0	
Chlorobenzene	13.0 ug/L		1.0	1		02/13/13 13:21	108-90-7	
Chloroform	ND ug/L		1.0	1		02/13/13 13:21	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/13/13 13:21	107-06-2	
cis-1,2-Dichloroethene	179 ug/L		1.0	1		02/13/13 13:21	156-59-2	
trans-1,2-Dichloroethene	1.1 ug/L		1.0	1		02/13/13 13:21	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/13/13 13:21	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/13/13 13:21	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/13/13 13:21	75-09-2	
Tetrachloroethene	102 ug/L		1.0	1		02/13/13 13:21	127-18-4	
Toluene	ND ug/L		1.0	1		02/13/13 13:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/13/13 13:21	71-55-6	
Trichloroethene	76.6 ug/L		1.0	1		02/13/13 13:21	79-01-6	
Vinyl chloride	40.1 ug/L		1.0	1		02/13/13 13:21	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/13/13 13:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	104 %		80-120	1		02/13/13 13:21	460-00-4	
Dibromofluoromethane (S)	102 %		80-120	1		02/13/13 13:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	100 %		80-120	1		02/13/13 13:21	17060-07-0	
Toluene-d8 (S)	92 %		80-120	1		02/13/13 13:21	2037-26-5	
Preservation pH	1.0		0.10	1		02/13/13 13:21		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	372 mg/L		20.0	1		02/13/13 09:04		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	664 mg/L		5.0	1		02/12/13 16:20		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8 Std. Units		0.10	1		02/11/13 14:00		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	3.3 mg/L		0.25	1		02/11/13 16:20	18496-25-8	

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Page 12 of 34



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: REC-1-020713	Lab ID: 60138354004	Collected: 02/07/13 12:15	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	20.7 mg/L		5.0	5		02/12/13 18:20	16887-00-6	
Sulfate	163 mg/L		10.0	10		02/12/13 18:36	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		02/08/13 16:14		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/08/13 16:14		
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		02/08/13 16:14		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	7.3 mg/L		3.0	6		02/13/13 13:59	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	445 mg/L		20.0	1		02/19/13 09:05	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Sample: TB-4-020713	Lab ID: 60138354005	Collected: 02/07/13 00:00	Received: 02/08/13 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/12/13 14:20	67-64-1	
Benzene	ND ug/L		1.0	1		02/12/13 14:20	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/12/13 14:20	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/12/13 14:20	108-90-7	
Chloroform	ND ug/L		1.0	1		02/12/13 14:20	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/12/13 14:20	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/12/13 14:20	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/12/13 14:20	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/12/13 14:20	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/12/13 14:20	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/12/13 14:20	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/12/13 14:20	127-18-4	
Toluene	ND ug/L		1.0	1		02/12/13 14:20	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/12/13 14:20	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/12/13 14:20	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/12/13 14:20	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/12/13 14:20	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		02/12/13 14:20	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	1		02/12/13 14:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	95 %		80-120	1		02/12/13 14:20	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		02/12/13 14:20	2037-26-5	
Preservation pH	1.0		0.10	1		02/12/13 14:20		

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: AIR/16762      Analysis Method: RSK 175  
QC Batch Method: RSK 175      Analysis Description: RSK 175 AIR HEADSPACE  
Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1376208      Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/12/13 07:08	
Ethene	ug/L	ND	6.2	02/12/13 07:08	
Methane	ug/L	ND	6.6	02/12/13 07:08	

LABORATORY CONTROL SAMPLE &amp; LCSD: 1376209      1376210

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	104	101	92	89	85-115	3	20	
Ethene	ug/L	106	96.4	94.4	91	89	85-115	2	20	
Methane	ug/L	60.7	56.7	57.5	94	95	85-115	1	20	

SAMPLE DUPLICATE: 1376730

Parameter	Units	5075866001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	ND	6.9		20	

SAMPLE DUPLICATE: 1376731

Parameter	Units	92147459001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	76.9	76.8	.2	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: MPRP/21451 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1138758 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	02/12/13 10:39	
Manganese	ug/L	ND	5.0	02/12/13 10:39	

LABORATORY CONTROL SAMPLE: 1138759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1020	102	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1138760 1138761

Parameter	Units	60138300001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Iron	ug/L	51600	10000	10000	61500	58300	99	67	75-125	5	20	M6
Manganese	ug/L	810	1000	1000	1700	1730	89	92	75-125	2	20	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch:	MSV/51801	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60138354001, 60138354002, 60138354003		

METHOD BLANK: 1138860 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/11/13 12:12	
1,2-Dichloroethane	ug/L	ND	1.0	02/11/13 12:12	
Acetone	ug/L	ND	10.0	02/11/13 12:12	
Benzene	ug/L	ND	1.0	02/11/13 12:12	
Carbon disulfide	ug/L	ND	5.0	02/11/13 12:12	
Chlorobenzene	ug/L	ND	1.0	02/11/13 12:12	
Chloroform	ug/L	ND	1.0	02/11/13 12:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/11/13 12:12	
Ethylbenzene	ug/L	ND	1.0	02/11/13 12:12	
Iodomethane	ug/L	ND	10.0	02/11/13 12:12	
Methylene chloride	ug/L	ND	1.0	02/11/13 12:12	
Tetrachloroethene	ug/L	ND	1.0	02/11/13 12:12	
Toluene	ug/L	ND	1.0	02/11/13 12:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/11/13 12:12	
Trichloroethene	ug/L	ND	1.0	02/11/13 12:12	
Vinyl chloride	ug/L	ND	1.0	02/11/13 12:12	
Xylene (Total)	ug/L	ND	3.0	02/11/13 12:12	
1,2-Dichloroethane-d4 (S)	%	90	80-120	02/11/13 12:12	
4-Bromofluorobenzene (S)	%	96	80-120	02/11/13 12:12	
Dibromofluoromethane (S)	%	94	80-120	02/11/13 12:12	
Toluene-d8 (S)	%	96	80-120	02/11/13 12:12	

LABORATORY CONTROL SAMPLE: 1138861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	75-124	
1,2-Dichloroethane	ug/L	20	17.5	88	72-122	
Acetone	ug/L	100	86.5	87	60-126	
Benzene	ug/L	20	19.5	97	73-122	
Carbon disulfide	ug/L	20	18.7	93	62-125	
Chlorobenzene	ug/L	20	18.5	92	80-120	
Chloroform	ug/L	20	18.1	90	76-120	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	69-120	
Ethylbenzene	ug/L	20	18.0	90	76-123	
Iodomethane	ug/L	20	22.4	112	40-160	
Methylene chloride	ug/L	20	19.1	95	71-123	
Tetrachloroethene	ug/L	20	19.6	98	79-122	
Toluene	ug/L	20	17.5	87	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	78-126	
Trichloroethene	ug/L	20	18.6	93	76-120	
Vinyl chloride	ug/L	20	17.8	89	57-140	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

LABORATORY CONTROL SAMPLE: 1138861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	54.9	91	76-122	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: MSV/51828 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138354001, 60138354005

METHOD BLANK: 1139450 Matrix: Water

Associated Lab Samples: 60138354001, 60138354005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/12/13 13:02	
1,2-Dichloroethane	ug/L	ND	1.0	02/12/13 13:02	
Acetone	ug/L	ND	10.0	02/12/13 13:02	
Benzene	ug/L	ND	1.0	02/12/13 13:02	
Carbon disulfide	ug/L	ND	5.0	02/12/13 13:02	
Chlorobenzene	ug/L	ND	1.0	02/12/13 13:02	
Chloroform	ug/L	ND	1.0	02/12/13 13:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 13:02	
Ethylbenzene	ug/L	ND	1.0	02/12/13 13:02	
Iodomethane	ug/L	ND	10.0	02/12/13 13:02	
Methylene chloride	ug/L	ND	1.0	02/12/13 13:02	
Tetrachloroethene	ug/L	ND	1.0	02/12/13 13:02	
Toluene	ug/L	ND	1.0	02/12/13 13:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/12/13 13:02	
Trichloroethene	ug/L	ND	1.0	02/12/13 13:02	
Vinyl chloride	ug/L	ND	1.0	02/12/13 13:02	
Xylene (Total)	ug/L	ND	3.0	02/12/13 13:02	
1,2-Dichloroethane-d4 (S)	%	95	80-120	02/12/13 13:02	
4-Bromofluorobenzene (S)	%	98	80-120	02/12/13 13:02	
Dibromofluoromethane (S)	%	100	80-120	02/12/13 13:02	
Toluene-d8 (S)	%	94	80-120	02/12/13 13:02	

LABORATORY CONTROL SAMPLE: 1139451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.7	109	75-124	
1,2-Dichloroethane	ug/L	20	18.4	92	72-122	
Acetone	ug/L	100	78.4	78	60-126	
Benzene	ug/L	20	19.8	99	73-122	
Carbon disulfide	ug/L	20	21.4	107	62-125	
Chlorobenzene	ug/L	20	18.8	94	80-120	
Chloroform	ug/L	20	18.6	93	76-120	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	69-120	
Ethylbenzene	ug/L	20	19.0	95	76-123	
Iodomethane	ug/L	20	19.5	98	40-160	
Methylene chloride	ug/L	20	21.3	107	71-123	
Tetrachloroethene	ug/L	20	19.5	98	79-122	
Toluene	ug/L	20	18.1	91	76-122	
trans-1,2-Dichloroethene	ug/L	20	21.3	107	78-126	
Trichloroethene	ug/L	20	18.8	94	76-120	
Vinyl chloride	ug/L	20	22.6	113	57-140	

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Page 19 of 34

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

LABORATORY CONTROL SAMPLE: 1139451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	57.0	95	76-122	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			97	80-120	
Toluene-d8 (S)	%			91	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: MSV/51850 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138354003, 60138354004

METHOD BLANK: 1140056 Matrix: Water

Associated Lab Samples: 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/13/13 13:05	
1,2-Dichloroethane	ug/L	ND	1.0	02/13/13 13:05	
Acetone	ug/L	ND	10.0	02/13/13 13:05	
Benzene	ug/L	ND	1.0	02/13/13 13:05	
Carbon disulfide	ug/L	ND	5.0	02/13/13 13:05	
Chlorobenzene	ug/L	ND	1.0	02/13/13 13:05	
Chloroform	ug/L	ND	1.0	02/13/13 13:05	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Ethylbenzene	ug/L	ND	1.0	02/13/13 13:05	
Iodomethane	ug/L	ND	10.0	02/13/13 13:05	
Methylene chloride	ug/L	ND	1.0	02/13/13 13:05	
Tetrachloroethene	ug/L	ND	1.0	02/13/13 13:05	
Toluene	ug/L	ND	1.0	02/13/13 13:05	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Trichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Vinyl chloride	ug/L	ND	1.0	02/13/13 13:05	
Xylene (Total)	ug/L	ND	3.0	02/13/13 13:05	
1,2-Dichloroethane-d4 (S)	%	92	80-120	02/13/13 13:05	
4-Bromofluorobenzene (S)	%	105	80-120	02/13/13 13:05	
Dibromofluoromethane (S)	%	98	80-120	02/13/13 13:05	
Toluene-d8 (S)	%	91	80-120	02/13/13 13:05	

LABORATORY CONTROL SAMPLE: 1140057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.0	110	75-124	
1,2-Dichloroethane	ug/L	20	18.8	94	72-122	
Acetone	ug/L	100	93.0	93	60-126	
Benzene	ug/L	20	21.7	108	73-122	
Carbon disulfide	ug/L	20	21.6	108	62-125	
Chlorobenzene	ug/L	20	18.8	94	80-120	
Chloroform	ug/L	20	19.6	98	76-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	69-120	
Ethylbenzene	ug/L	20	20.2	101	76-123	
Iodomethane	ug/L	20	19.0	95	40-160	
Methylene chloride	ug/L	20	21.4	107	71-123	
Tetrachloroethene	ug/L	20	20.0	100	79-122	
Toluene	ug/L	20	18.4	92	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.4	102	78-126	
Trichloroethene	ug/L	20	21.0	105	76-120	
Vinyl chloride	ug/L	20	21.1	106	57-140	

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Page 21 of 34

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

LABORATORY CONTROL SAMPLE: 1140057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	58.1	97	76-122	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WET/39700 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60138354001, 60138354003, 60138354004

METHOD BLANK: 1139555 Matrix: Water

Associated Lab Samples: 60138354001, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/13/13 08:16	

LABORATORY CONTROL SAMPLE: 1139556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	481	96	90-110	

SAMPLE DUPLICATE: 1139557

Parameter	Units	60138354001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	953	962	1	10	

SAMPLE DUPLICATE: 1139558

Parameter	Units	60138274002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	124	123	1	10	

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch:	WET/39747	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60138354002		

METHOD BLANK: 1140736	Matrix: Water
-----------------------	---------------

Associated Lab Samples: 60138354002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/15/13 09:18	

LABORATORY CONTROL SAMPLE: 1140737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	479	96	90-110	

SAMPLE DUPLICATE: 1140738

Parameter	Units	60138398004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	81.8	84.3	3	10	

SAMPLE DUPLICATE: 1140739

Parameter	Units	60138473002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	478	461	4	10	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WET/39689      Analysis Method: SM 2540C  
QC Batch Method: SM 2540C      Analysis Description: 2540C Total Dissolved Solids  
Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1139419      Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/12/13 16:18	

SAMPLE DUPLICATE: 1139420

Parameter	Units	60138398004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	96.0	95.0	1	17	

SAMPLE DUPLICATE: 1139421

Parameter	Units	60138473002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2210	2360	7	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WET/39652 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138354001, 60138354003, 60138354004

SAMPLE DUPLICATE: 1138252

Parameter	Units	60138334001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	0	5	H6



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WET/39653 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138354002

SAMPLE DUPLICATE: 1138253

Parameter	Units	60138369001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	2	5	H6

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WET/39666 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1138725 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/11/13 16:17	

LABORATORY CONTROL SAMPLE: 1138726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.50	99	80-120	

MATRIX SPIKE SAMPLE: 1138727

Parameter	Units	60138273002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.58	115	75-125	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WETA/23503 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1139162 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/12/13 13:41	
Sulfate	mg/L	ND	1.0	02/12/13 13:41	

LABORATORY CONTROL SAMPLE: 1139163

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE SAMPLE: 1139164

Parameter	Units	60138354001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	39.5	25	61.4	88	64-118	
Sulfate	mg/L	2.2	5	7.6	107	61-119	

MATRIX SPIKE SAMPLE: 1139165

Parameter	Units	60138354003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	74.1	25	95.1	84	64-118	
Sulfate	mg/L	73.1	25	92.8	79	61-119	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

QC Batch: WETA/23478 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 1137811 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/08/13 15:58	
Nitrogen, Nitrite	mg/L	ND	0.10	02/08/13 15:58	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/08/13 15:58	

LABORATORY CONTROL SAMPLE: 1137812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	105	90-110	
Nitrogen, Nitrite	mg/L	.4	0.40	100	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 1137813

Parameter	Units	60138338001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L		3.1	6.4	9.7	103	90-110
Nitrogen, Nitrite	mg/L		2.5	1.6	3.9	86	90-110 M1
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L		5.7	8	13.6	100	90-110

MATRIX SPIKE SAMPLE: 1137814

Parameter	Units	60138340002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L		7.4	6.4	13.8	101	90-110
Nitrogen, Nitrite	mg/L		ND	1.6	1.6	99	90-110
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L		7.4	8	15.4	100	90-110

SAMPLE DUPLICATE: 1137815

Parameter	Units	60138339006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	29.8	30.3	2	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	29.8	30.3	2	13	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

QC Batch: WETA/16266 Analysis Method: SM 5310C  
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon  
Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

METHOD BLANK: 748662 Matrix: Water

Associated Lab Samples: 60138354001, 60138354002, 60138354003, 60138354004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/13/13 10:55	

LABORATORY CONTROL SAMPLE: 748663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.6	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 748664 748665

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	109	250	250	379	382	108	109	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 748666 748667

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Total Organic Carbon	mg/L	18.8	75	75	96.9	97.6	104	105	80-120	1	20	

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/51801

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51828

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51850

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138354

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138354001	LPZ-2-020713	RSK 175	AIR/16762		
60138354002	LPZ-4-020713	RSK 175	AIR/16762		
60138354003	LPZ-5-020713	RSK 175	AIR/16762		
60138354004	REC-1-020713	RSK 175	AIR/16762		
60138354001	LPZ-2-020713	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138354002	LPZ-4-020713	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138354003	LPZ-5-020713	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138354004	REC-1-020713	EPA 3010	MPRP/21451	EPA 6010	ICP/17264
60138354001	LPZ-2-020713	EPA 5030B/8260	MSV/51801		
60138354001	LPZ-2-020713	EPA 5030B/8260	MSV/51828		
60138354002	LPZ-4-020713	EPA 5030B/8260	MSV/51801		
60138354003	LPZ-5-020713	EPA 5030B/8260	MSV/51801		
60138354003	LPZ-5-020713	EPA 5030B/8260	MSV/51850		
60138354004	REC-1-020713	EPA 5030B/8260	MSV/51850		
60138354005	TB-4-020713	EPA 5030B/8260	MSV/51828		
60138354001	LPZ-2-020713	SM 2320B	WET/39700		
60138354002	LPZ-4-020713	SM 2320B	WET/39747		
60138354003	LPZ-5-020713	SM 2320B	WET/39700		
60138354004	REC-1-020713	SM 2320B	WET/39700		
60138354001	LPZ-2-020713	SM 2540C	WET/39689		
60138354002	LPZ-4-020713	SM 2540C	WET/39689		
60138354003	LPZ-5-020713	SM 2540C	WET/39689		
60138354004	REC-1-020713	SM 2540C	WET/39689		
60138354001	LPZ-2-020713	SM 4500-H+B	WET/39652		
60138354002	LPZ-4-020713	SM 4500-H+B	WET/39653		
60138354003	LPZ-5-020713	SM 4500-H+B	WET/39652		
60138354004	REC-1-020713	SM 4500-H+B	WET/39652		
60138354001	LPZ-2-020713	SM 4500-S-2 D	WET/39666		
60138354002	LPZ-4-020713	SM 4500-S-2 D	WET/39666		
60138354003	LPZ-5-020713	SM 4500-S-2 D	WET/39666		
60138354004	REC-1-020713	SM 4500-S-2 D	WET/39666		
60138354001	LPZ-2-020713	EPA 300.0	WETA/23503		
60138354002	LPZ-4-020713	EPA 300.0	WETA/23503		
60138354003	LPZ-5-020713	EPA 300.0	WETA/23503		
60138354004	REC-1-020713	EPA 300.0	WETA/23503		
60138354001	LPZ-2-020713	EPA 353.2	WETA/23478		
60138354002	LPZ-4-020713	EPA 353.2	WETA/23478		
60138354003	LPZ-5-020713	EPA 353.2	WETA/23478		
60138354004	REC-1-020713	EPA 353.2	WETA/23478		
60138354001	LPZ-2-020713	SM 5310C	WETA/16266		

Date: 02/19/2013 09:32 AM

## REPORT OF LABORATORY ANALYSIS

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Page 33 of 34

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138354

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138354002	LPZ-4-020713	SM 5310C	WETA/16266		
60138354003	LPZ-5-020713	SM 5310C	WETA/16266		
60138354004	REC-1-020713	SM 5310C	WETA/16266		
60138354001	LPZ-2-020713	SM 4500-CO2 D	WETA/23588		
60138354002	LPZ-4-020713	SM 4500-CO2 D	WETA/23588		
60138354003	LPZ-5-020713	SM 4500-CO2 D	WETA/23588		
60138354004	REC-1-020713	SM 4500-CO2 D	WETA/23588		



## **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**\*Important Note:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007



## Sample Condition Upon Receipt

WO# : 60138354



60138354

Client Name: Env. Ops.

Optional

Proj Due Date:

Proj Name:

Courier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  VIATracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  ZPLC

Thermometer Used: T-112 / T-194

Type of Ice: Wet  Blue  None  Samples received on ice, cooling process has begun.  
(circle one)

Cooler Temperature: 2.2

Date and initials of person examining  
contents: 2/8/13 BA

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. No	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.	
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Includes date/time/ID/analyses	Matrix: W	13.	
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.	
Exceptions: VOA coliform, TOC O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed	Lot # of added preservative
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank lot # (if purchased):		15.	
Headspace in VOA vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16. 2 of 3 LPZ-5.	
		17. List State:	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: 2/8/13



Pace Analytical Services, Inc.  
9608 Loiret Blvd.  
Lenexa, KS 66219  
(913)599-5665

February 20, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOUTIA GROUNDWATER  
Pace Project No.: 60138572

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 37

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nevada Certification #: MN\_00064  
 Nebraska Certification #: Pace  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
 Florida/NELAP Certification #: E87948  
 Illinois Certification #: 200050  
 Kentucky Certification #: 82  
 Louisiana Certification #: 04168  
 Minnesota Certification #: 055-999-334

New York Certification #: 11888  
 North Dakota Certification #: R-150  
 South Carolina Certification #: 83006001  
 US Dept of Agriculture #: S-76505  
 Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2  
 Illinois Certification #: 003097

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## SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138572001	MW-36A-021113	Water	02/11/13 07:45	02/12/13 07:30
60138572002	MW-36B-021113	Water	02/11/13 08:52	02/12/13 07:30
60138572003	MW-30B-021113	Water	02/11/13 10:17	02/12/13 07:30
60138572004	MW-28B-021113	Water	02/11/13 11:51	02/12/13 07:30
60138572005	OBW-3-021113	Water	02/11/13 13:54	02/12/13 07:30
60138572006	OBW-3-021113 AD	Water	02/11/13 13:54	02/12/13 07:30
60138572007	TB-4-021113	Water	02/11/13 00:00	02/12/13 07:30

## REPORT OF LABORATORY ANALYSIS

Page 3 of 37

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### SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138572001	MW-36A-021113	RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138572002	MW-36B-021113	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
60138572003	MW-30B-021113	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138572004	MW-28B-021113	EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K

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## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138572005	OBW-3-021113	SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138572006	OBW-3-021113 AD	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	NDJ	2	PASI-K
		EPA 5030B/8260	JTK	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JMC1	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
60138572007	TB-4-021113	EPA 5030B/8260	JTK	22	PASI-K

## REPORT OF LABORATORY ANALYSIS

Page 5 of 37

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-36A-021113	Lab ID: 60138572001	Collected: 02/11/13 07:45	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	11.6	ug/L	6.2	1		02/13/13 13:12	74-84-0	
Ethene	ND	ug/L	6.2	1		02/13/13 13:12	74-85-1	
Methane	1240	ug/L	6.6	1		02/13/13 13:12	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	27800	ug/L	50.0	1	02/14/13 15:45	02/15/13 13:52	7439-89-6	
Manganese	4930	ug/L	5.0	1	02/14/13 15:45	02/15/13 13:52	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		02/13/13 16:13	67-64-1	
Benzene	29.3	ug/L	1.0	1		02/13/13 16:13	71-43-2	
Carbon disulfide	ND	ug/L	5.0	1		02/13/13 16:13	75-15-0	
Chlorobenzene	273	ug/L	5.0	5		02/13/13 16:28	108-90-7	
Chloroform	ND	ug/L	1.0	1		02/13/13 16:13	67-66-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/13/13 16:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		02/13/13 16:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		02/13/13 16:13	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		02/13/13 16:13	100-41-4	
Iodomethane	ND	ug/L	10.0	1		02/13/13 16:13	74-88-4	
Methylene chloride	ND	ug/L	1.0	1		02/13/13 16:13	75-09-2	
Tetrachloroethene	ND	ug/L	1.0	1		02/13/13 16:13	127-18-4	
Toluene	ND	ug/L	1.0	1		02/13/13 16:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		02/13/13 16:13	71-55-6	
Trichloroethene	ND	ug/L	1.0	1		02/13/13 16:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		02/13/13 16:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		02/13/13 16:13	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	95 %		80-120	1		02/13/13 16:13	460-00-4	
Dibromofluoromethane (S)	103 %		80-120	1		02/13/13 16:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		02/13/13 16:13	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		02/13/13 16:13	2037-26-5	
Preservation pH	1.0		0.10	1		02/13/13 16:13		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	413	mg/L	20.0	1		02/19/13 10:29		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1180	mg/L	5.0	1		02/13/13 14:33		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND	mg/L	0.050	1		02/17/13 14:00	18496-25-8	

Date: 02/20/2013 04:41 PM

## REPORT OF LABORATORY ANALYSIS

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Page 6 of 37



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(913)599-5665

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

Sample: MW-36A-021113	Lab ID: 60138572001	Collected: 02/11/13 07:45	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	344 mg/L		20.0	20		02/13/13 21:08	16887-00-6	
Sulfate	146 mg/L		20.0	20		02/13/13 21:08	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		02/12/13 16:47		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/12/13 16:47		M1
Nitrogen, NO2 plus NO3	ND mg/L		0.10	1		02/12/13 16:47		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	3.0 mg/L		1.5	3		02/18/13 18:57	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	363 mg/L		20.0	1		02/19/13 14:59	124-38-9	

Date: 02/20/2013 04:41 PM

## REPORT OF LABORATORY ANALYSIS

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Page 7 of 37

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-36B-021113	Lab ID: 60138572002	Collected: 02/11/13 08:52	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/13/13 13:33	74-84-0	
Ethene	ND ug/L		6.2	1		02/13/13 13:33	74-85-1	
Methane	53.3 ug/L		6.6	1		02/13/13 13:33	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	737 ug/L		50.0	1	02/14/13 15:45	02/15/13 13:58	7439-89-6	
Manganese	1160 ug/L		5.0	1	02/14/13 15:45	02/15/13 13:58	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/14/13 12:50	67-64-1	
Benzene	3.1 ug/L		1.0	1		02/14/13 12:50	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/14/13 12:50	75-15-0	
Chlorobenzene	62.7 ug/L		1.0	1		02/14/13 12:50	108-90-7	
Chloroform	7.6 ug/L		1.0	1		02/14/13 12:50	67-66-3	
1,2-Dichloroethane	48.1 ug/L		1.0	1		02/14/13 12:50	107-06-2	
cis-1,2-Dichloroethene	13.7 ug/L		1.0	1		02/14/13 12:50	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/14/13 12:50	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/14/13 12:50	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/14/13 12:50	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/14/13 12:50	75-09-2	
Tetrachloroethene	4.6 ug/L		1.0	1		02/14/13 12:50	127-18-4	
Toluene	ND ug/L		1.0	1		02/14/13 12:50	108-88-3	
1,1,1-Trichloroethane	1.9 ug/L		1.0	1		02/14/13 12:50	71-55-6	
Trichloroethene	9.3 ug/L		1.0	1		02/14/13 12:50	79-01-6	
Vinyl chloride	34.1 ug/L		1.0	1		02/14/13 12:50	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/14/13 12:50	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	101 %		80-120	1		02/14/13 12:50	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	1		02/14/13 12:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	94 %		80-120	1		02/14/13 12:50	17060-07-0	
Toluene-d8 (S)	89 %		80-120	1		02/14/13 12:50	2037-26-5	
Preservation pH	1.0		0.10	1		02/14/13 12:50		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	258 mg/L		20.0	1		02/19/13 10:38		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	718 mg/L		5.0	1		02/13/13 14:33		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6 Std. Units		0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:00	18496-25-8	

Date: 02/20/2013 04:41 PM

## REPORT OF LABORATORY ANALYSIS

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Page 8 of 37

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-36B-021113	Lab ID: 60138572002	Collected: 02/11/13 08:52	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	164 mg/L		20.0	20		02/13/13 21:24	16887-00-6	
Sulfate	122 mg/L		20.0	20		02/13/13 21:24	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND mg/L		0.10	1		02/12/13 16:54		
Nitrogen, Nitrite	0.38 mg/L		0.10	1		02/12/13 16:54		
Nitrogen, NO2 plus NO3	0.38 mg/L		0.10	1		02/12/13 16:54		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	6.6 mg/L		1.5	3		02/18/13 19:15	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	227 mg/L		20.0	1		02/19/13 14:59	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-30B-021113	Lab ID: 60138572003	Collected: 02/11/13 10:17	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/13/13 13:44	74-84-0	
Ethene	ND ug/L		6.2	1		02/13/13 13:44	74-85-1	
Methane	ND ug/L		6.6	1		02/13/13 13:44	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	18200 ug/L		50.0	1	02/14/13 15:45	02/15/13 14:00	7439-89-6	
Manganese	1320 ug/L		5.0	1	02/14/13 15:45	02/15/13 14:00	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/14/13 13:06	67-64-1	
Benzene	ND ug/L		1.0	1		02/14/13 13:06	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/14/13 13:06	75-15-0	
Chlorobenzene	87.7 ug/L		1.0	1		02/14/13 13:06	108-90-7	
Chloroform	ND ug/L		1.0	1		02/14/13 13:06	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/14/13 13:06	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/14/13 13:06	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/14/13 13:06	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/14/13 13:06	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/14/13 13:06	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/14/13 13:06	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/14/13 13:06	127-18-4	
Toluene	ND ug/L		1.0	1		02/14/13 13:06	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/14/13 13:06	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/14/13 13:06	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/14/13 13:06	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/14/13 13:06	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	102 %		80-120	1		02/14/13 13:06	460-00-4	
Dibromofluoromethane (S)	100 %		80-120	1		02/14/13 13:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	94 %		80-120	1		02/14/13 13:06	17060-07-0	
Toluene-d8 (S)	97 %		80-120	1		02/14/13 13:06	2037-26-5	
Preservation pH	1.0		0.10	1		02/14/13 13:06		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	500 mg/L		20.0	1		02/19/13 10:47		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1110 mg/L		5.0	1		02/14/13 15:24		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2 Std. Units		0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:00	18496-25-8	

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Page 10 of 37

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-30B-021113	Lab ID: 60138572003	Collected: 02/11/13 10:17	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	106 mg/L		20.0	20		02/13/13 21:39	16887-00-6	
Sulfate	243 mg/L		20.0	20		02/13/13 21:39	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	23.3 mg/L		1.0	10		02/13/13 09:15		
Nitrogen, Nitrite	ND mg/L		1.0	10		02/13/13 09:15		
Nitrogen, NO2 plus NO3	23.4 mg/L		1.0	10		02/13/13 09:15		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.0 mg/L		1.0	2		02/18/13 20:28	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	440 mg/L		20.0	1		02/19/13 14:59	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-28B-021113	Lab ID: 60138572004	Collected: 02/11/13 11:51	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	544 ug/L		6.2	1		02/13/13 13:55	74-84-0	
Ethene	ND ug/L		6.2	1		02/13/13 13:55	74-85-1	
Methane	7740 ug/L		6.6	1		02/13/13 13:55	74-82-8	E
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	69800 ug/L		50.0	1	02/14/13 15:45	02/15/13 14:02	7439-89-6	
Manganese	1110 ug/L		5.0	1	02/14/13 15:45	02/15/13 14:02	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	17.0 ug/L		10.0	1		02/13/13 17:46	67-64-1	
Benzene	33.5 ug/L		1.0	1		02/13/13 17:46	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/13/13 17:46	75-15-0	
Chlorobenzene	1540 ug/L		25.0	25		02/14/13 13:37	108-90-7	
Chloroform	ND ug/L		1.0	1		02/13/13 17:46	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/13/13 17:46	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 17:46	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 17:46	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/13/13 17:46	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/13/13 17:46	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/13/13 17:46	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/13/13 17:46	127-18-4	
Toluene	ND ug/L		1.0	1		02/13/13 17:46	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/13/13 17:46	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/13/13 17:46	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/13/13 17:46	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/13/13 17:46	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	98 %		80-120	1		02/13/13 17:46	460-00-4	
Dibromofluoromethane (S)	101 %		80-120	1		02/13/13 17:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %		80-120	1		02/13/13 17:46	17060-07-0	
Toluene-d8 (S)	103 %		80-120	1		02/13/13 17:46	2037-26-5	
Preservation pH	1.0		0.10	1		02/13/13 17:46		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1500 mg/L		60.0	3		02/19/13 13:18		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	1400 mg/L		5.0	1		02/14/13 15:24		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:00	18496-25-8	

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Page 12 of 37

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: MW-28B-021113	Lab ID: 60138572004	Collected: 02/11/13 11:51	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	139	mg/L	10.0	10		02/14/13 17:21	16887-00-6	
Sulfate	2.6	mg/L	1.0	1		02/14/13 17:03	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/13/13 09:02		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/13/13 09:02		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/13/13 09:02		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	41.2	mg/L	7.5	15		02/18/13 19:33	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	1320	mg/L	20.0	1		02/19/13 14:59	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: OBW-3-021113	Lab ID: 60138572005	Collected: 02/11/13 13:54	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/13/13 14:05	74-84-0	
Ethene	ND ug/L		6.2	1		02/13/13 14:05	74-85-1	
Methane	ND ug/L		6.6	1		02/13/13 14:05	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	178 ug/L		50.0	1	02/14/13 15:45	02/15/13 14:09	7439-89-6	
Manganese	18.1 ug/L		5.0	1	02/14/13 15:45	02/15/13 14:09	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/14/13 13:21	67-64-1	
Benzene	ND ug/L		1.0	1		02/14/13 13:21	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/14/13 13:21	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/14/13 13:21	108-90-7	
Chloroform	ND ug/L		1.0	1		02/14/13 13:21	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/14/13 13:21	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/14/13 13:21	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/14/13 13:21	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/14/13 13:21	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/14/13 13:21	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/14/13 13:21	75-09-2	
Tetrachloroethene	1.3 ug/L		1.0	1		02/14/13 13:21	127-18-4	
Toluene	ND ug/L		1.0	1		02/14/13 13:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/14/13 13:21	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/14/13 13:21	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/14/13 13:21	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/14/13 13:21	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	1		02/14/13 13:21	460-00-4	
Dibromofluoromethane (S)	99 %		80-120	1		02/14/13 13:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		80-120	1		02/14/13 13:21	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		02/14/13 13:21	2037-26-5	
Preservation pH	1.0		0.10	1		02/14/13 13:21		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO <sub>3</sub>	274 mg/L		20.0	1		02/19/13 11:03		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	686 mg/L		5.0	1		02/14/13 15:24		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.7 Std. Units		0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:00	18496-25-8	

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Page 14 of 37



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: OBW-3-021113	Lab ID: 60138572005	Collected: 02/11/13 13:54	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	151 mg/L		20.0	20		02/13/13 22:10	16887-00-6	
Sulfate	102 mg/L		20.0	20		02/13/13 22:10	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.17 mg/L		0.10	1		02/13/13 09:09		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/13/13 09:09		
Nitrogen, NO2 plus NO3	0.19 mg/L		0.10	1		02/13/13 09:09		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	0.91 mg/L		0.50	1		02/18/13 19:51	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	241 mg/L		20.0	1		02/19/13 14:59	124-38-9	

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## REPORT OF LABORATORY ANALYSIS

Page 15 of 37

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: OBW-3-021113 AD	Lab ID: 60138572006	Collected: 02/11/13 13:54	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/13/13 14:16	74-84-0	
Ethene	ND ug/L		6.2	1		02/13/13 14:16	74-85-1	
Methane	ND ug/L		6.6	1		02/13/13 14:16	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	175 ug/L		50.0	1	02/14/13 15:45	02/15/13 14:11	7439-89-6	
Manganese	18.7 ug/L		5.0	1	02/14/13 15:45	02/15/13 14:11	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/13/13 18:18	67-64-1	
Benzene	ND ug/L		1.0	1		02/13/13 18:18	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/13/13 18:18	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/13/13 18:18	108-90-7	
Chloroform	ND ug/L		1.0	1		02/13/13 18:18	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/13/13 18:18	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 18:18	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 18:18	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/13/13 18:18	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/13/13 18:18	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/13/13 18:18	75-09-2	
Tetrachloroethene	1.3 ug/L		1.0	1		02/13/13 18:18	127-18-4	
Toluene	ND ug/L		1.0	1		02/13/13 18:18	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/13/13 18:18	71-55-6	
Trichloroethene	1.0 ug/L		1.0	1		02/13/13 18:18	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/13/13 18:18	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/13/13 18:18	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	96 %		80-120	1		02/13/13 18:18	460-00-4	
Dibromofluoromethane (S)	100 %		80-120	1		02/13/13 18:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	94 %		80-120	1		02/13/13 18:18	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		02/13/13 18:18	2037-26-5	
Preservation pH	1.0		0.10	1		02/13/13 18:18		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	219 mg/L		20.0	1		02/19/13 11:07		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	675 mg/L		5.0	1		02/14/13 15:25		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.7 Std. Units		0.10	1		02/14/13 15:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:01	18496-25-8	

Date: 02/20/2013 04:41 PM

## REPORT OF LABORATORY ANALYSIS

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Page 16 of 37



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: OBW-3-021113 AD	Lab ID: 60138572006	Collected: 02/11/13 13:54	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	150	mg/L	20.0	20		02/13/13 22:57	16887-00-6	
Sulfate	104	mg/L	20.0	20		02/13/13 22:57	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/13/13 09:10		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/13/13 09:10		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/13/13 09:10		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	0.90	mg/L	0.50	1		02/18/13 20:10	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	202	mg/L	20.0	1		02/19/13 14:59	124-38-9	

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Page 17 of 37

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Sample: TB-4-021113	Lab ID: 60138572007	Collected: 02/11/13 00:00	Received: 02/12/13 07:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/13/13 18:33	67-64-1	
Benzene	ND ug/L		1.0	1		02/13/13 18:33	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/13/13 18:33	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/13/13 18:33	108-90-7	
Chloroform	ND ug/L		1.0	1		02/13/13 18:33	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/13/13 18:33	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 18:33	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/13/13 18:33	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/13/13 18:33	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/13/13 18:33	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/13/13 18:33	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/13/13 18:33	127-18-4	
Toluene	ND ug/L		1.0	1		02/13/13 18:33	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/13/13 18:33	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/13/13 18:33	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/13/13 18:33	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/13/13 18:33	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	103 %		80-120	1		02/13/13 18:33	460-00-4	
Dibromofluoromethane (S)	97 %		80-120	1		02/13/13 18:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	97 %		80-120	1		02/13/13 18:33	17060-07-0	
Toluene-d8 (S)	96 %		80-120	1		02/13/13 18:33	2037-26-5	
Preservation pH	1.0		0.10	1		02/13/13 18:33		



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: AIR/16769 Analysis Method: RSK 175

QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1376959 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/13/13 10:04	
Ethene	ug/L	ND	6.2	02/13/13 10:04	
Methane	ug/L	ND	6.6	02/13/13 10:04	

LABORATORY CONTROL SAMPLE & LCSD: 1376960 1376961

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	103	101	91	89	85-115	3	20	
Ethene	ug/L	106	95.9	93.9	90	89	85-115	2	20	
Methane	ug/L	60.7	56.9	55.9	94	92	85-115	2	20	

SAMPLE DUPLICATE: 1377587

Parameter	Units	10219819001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	ND	ND		20	

SAMPLE DUPLICATE: 1377588

Parameter	Units	60138572001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	11.6	9.9	16	20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	1240	1060	15	20	

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Page 19 of 39

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: MPRP/21531 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1140844 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	02/15/13 13:49	
Manganese	ug/L	ND	5.0	02/15/13 13:49	

LABORATORY CONTROL SAMPLE: 1140845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1140846 1140847

Parameter	Units	60138572001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Iron	ug/L	27800	10000	10000	38400	37900	106	102	75-125	1	20	
Manganese	ug/L	4930	1000	1000	5880	5860	95	92	75-125	0	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

QC Batch: MSV/51850 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 60138572001, 60138572004, 60138572006, 60138572007

METHOD BLANK: 1140056 Matrix: Water

Associated Lab Samples: 60138572001, 60138572004, 60138572006, 60138572007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/13/13 13:05	
1,2-Dichloroethane	ug/L	ND	1.0	02/13/13 13:05	
Acetone	ug/L	ND	10.0	02/13/13 13:05	
Benzene	ug/L	ND	1.0	02/13/13 13:05	
Carbon disulfide	ug/L	ND	5.0	02/13/13 13:05	
Chlorobenzene	ug/L	ND	1.0	02/13/13 13:05	
Chloroform	ug/L	ND	1.0	02/13/13 13:05	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Ethylbenzene	ug/L	ND	1.0	02/13/13 13:05	
Iodomethane	ug/L	ND	10.0	02/13/13 13:05	
Methylene chloride	ug/L	ND	1.0	02/13/13 13:05	
Tetrachloroethene	ug/L	ND	1.0	02/13/13 13:05	
Toluene	ug/L	ND	1.0	02/13/13 13:05	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Trichloroethene	ug/L	ND	1.0	02/13/13 13:05	
Vinyl chloride	ug/L	ND	1.0	02/13/13 13:05	
Xylene (Total)	ug/L	ND	3.0	02/13/13 13:05	
1,2-Dichloroethane-d4 (S)	%	92	80-120	02/13/13 13:05	
4-Bromofluorobenzene (S)	%	105	80-120	02/13/13 13:05	
Dibromofluoromethane (S)	%	98	80-120	02/13/13 13:05	
Toluene-d8 (S)	%	91	80-120	02/13/13 13:05	

LABORATORY CONTROL SAMPLE: 1140057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.0	110	75-124	
1,2-Dichloroethane	ug/L	20	18.8	94	72-122	
Acetone	ug/L	100	93.0	93	60-126	
Benzene	ug/L	20	21.7	108	73-122	
Carbon disulfide	ug/L	20	21.6	108	62-125	
Chlorobenzene	ug/L	20	18.8	94	80-120	
Chloroform	ug/L	20	19.6	98	76-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	69-120	
Ethylbenzene	ug/L	20	20.2	101	76-123	
Iodomethane	ug/L	20	19.0	95	40-160	
Methylene chloride	ug/L	20	21.4	107	71-123	
Tetrachloroethene	ug/L	20	20.0	100	79-122	
Toluene	ug/L	20	18.4	92	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.4	102	78-126	
Trichloroethene	ug/L	20	21.0	105	76-120	
Vinyl chloride	ug/L	20	21.1	106	57-140	

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Page 21 of 37

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

LABORATORY CONTROL SAMPLE: 1140057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	58.1	97	76-122	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: MSV/51867 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60138572002, 60138572003, 60138572004, 60138572005

METHOD BLANK: 1140574 Matrix: Water

Associated Lab Samples: 60138572002, 60138572003, 60138572004, 60138572005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/14/13 12:34	
1,2-Dichloroethane	ug/L	ND	1.0	02/14/13 12:34	
Acetone	ug/L	ND	10.0	02/14/13 12:34	
Benzene	ug/L	ND	1.0	02/14/13 12:34	
Carbon disulfide	ug/L	ND	5.0	02/14/13 12:34	
Chlorobenzene	ug/L	ND	1.0	02/14/13 12:34	
Chloroform	ug/L	ND	1.0	02/14/13 12:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Ethylbenzene	ug/L	ND	1.0	02/14/13 12:34	
Iodomethane	ug/L	ND	10.0	02/14/13 12:34	
Methylene chloride	ug/L	ND	1.0	02/14/13 12:34	
Tetrachloroethene	ug/L	ND	1.0	02/14/13 12:34	
Toluene	ug/L	ND	1.0	02/14/13 12:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Trichloroethene	ug/L	ND	1.0	02/14/13 12:34	
Vinyl chloride	ug/L	ND	1.0	02/14/13 12:34	
Xylene (Total)	ug/L	ND	3.0	02/14/13 12:34	
1,2-Dichloroethane-d4 (S)	%	89	80-120	02/14/13 12:34	
4-Bromofluorobenzene (S)	%	100	80-120	02/14/13 12:34	
Dibromofluoromethane (S)	%	94	80-120	02/14/13 12:34	
Toluene-d8 (S)	%	102	80-120	02/14/13 12:34	

LABORATORY CONTROL SAMPLE: 1140575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	75-124	
1,2-Dichloroethane	ug/L	20	16.8	84	72-122	
Acetone	ug/L	100	77.3	77	60-126	
Benzene	ug/L	20	18.3	92	73-122	
Carbon disulfide	ug/L	20	18.1	90	62-125	
Chlorobenzene	ug/L	20	19.8	99	80-120	
Chloroform	ug/L	20	17.5	88	76-120	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	69-120	
Ethylbenzene	ug/L	20	19.3	96	76-123	
Iodomethane	ug/L	20	16.7	83	40-160	
Methylene chloride	ug/L	20	21.5	107	71-123	
Tetrachloroethene	ug/L	20	21.0	105	79-122	
Toluene	ug/L	20	18.9	94	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	78-126	
Trichloroethene	ug/L	20	17.9	90	76-120	
Vinyl chloride	ug/L	20	16.6	83	57-140	

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Page 23 of 37

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

LABORATORY CONTROL SAMPLE: 1140575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	57.9	96	76-122	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WET/39803 Analysis Method: SM 2320B

QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1142376 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	02/19/13 09:32	

LABORATORY CONTROL SAMPLE: 1142377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	473	95	90-110	

SAMPLE DUPLICATE: 1142378

Parameter	Units	60138657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	452	450	0	10	

SAMPLE DUPLICATE: 1142379

Parameter	Units	60138572002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	258	246	4	10	

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## REPORT OF LABORATORY ANALYSIS

Page 25 of 37

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**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WET/39719 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60138572001, 60138572002

METHOD BLANK: 1140094 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/13/13 14:28	

SAMPLE DUPLICATE: 1140095

Parameter	Units	60138473007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1280	1300	1	17	

SAMPLE DUPLICATE: 1140096

Parameter	Units	60138541002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	335	278	19	17	D6

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WET/39727 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1140260 Matrix: Water

Associated Lab Samples: 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/14/13 15:24	

SAMPLE DUPLICATE: 1140261

Parameter	Units	60138536001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	344	344	0	17	

SAMPLE DUPLICATE: 1140262

Parameter	Units	60138666001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	891	879	1	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WET/39706 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

SAMPLE DUPLICATE: 1139610

Parameter	Units	60138284001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	0	5	H6



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WET/39784 Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1141907 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/17/13 14:00	

LABORATORY CONTROL SAMPLE: 1141908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.51	101	80-120	

MATRIX SPIKE SAMPLE: 1141909

Parameter	Units	60138699001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.29	.5	0.39	20	75-125 M1	

MATRIX SPIKE SAMPLE: 1141910

Parameter	Units	60138699002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.44	85	75-125	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch:	WETA/23522	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	60138572001, 60138572002, 60138572003, 60138572005, 60138572006		

METHOD BLANK: 1139803 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/13/13 13:38	
Sulfate	mg/L	ND	1.0	02/13/13 13:38	

LABORATORY CONTROL SAMPLE: 1139804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE SAMPLE: 1139805

Parameter	Units	60138275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.8	5	17.6	96	64-118	
Sulfate	mg/L	364	100	452	87	61-119	

MATRIX SPIKE SAMPLE: 1139806

Parameter	Units	60138275002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.8	5	17.7	98	64-118	
Sulfate	mg/L	378	100	450	72	61-119	



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Lenexa, KS 66219  
(913)599-5665

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

QC Batch: WETA/23538 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138572004

METHOD BLANK: 1140423 Matrix: Water

Associated Lab Samples: 60138572004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/14/13 12:38	
Sulfate	mg/L	ND	1.0	02/14/13 12:38	

LABORATORY CONTROL SAMPLE: 1140424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE SAMPLE: 1140425

Parameter	Units	60138538001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	170	100	265	95	64-118	
Sulfate	mg/L	31.9	25	56.8	99	61-119	

MATRIX SPIKE SAMPLE: 1140426

Parameter	Units	60138539001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	88.1	25	111	94	64-118	
Sulfate	mg/L	29.9	25	54.2	97	61-119	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WETA/23510 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138572001, 60138572002

METHOD BLANK: 1139590 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/12/13 16:45	
Nitrogen, Nitrite	mg/L	ND	0.10	02/12/13 16:45	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/12/13 16:45	

LABORATORY CONTROL SAMPLE: 1139591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	104	90-110	
Nitrogen, Nitrite	mg/L	.4	0.39	99	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1139592

Parameter	Units	60138572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	99	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.34	85	90-110	M1
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1139593

Parameter	Units	60138536005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	0.15	0.15	3	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.15	0.15	3	13	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WETA/23513 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 1139686 Matrix: Water

Associated Lab Samples: 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/13/13 08:49	
Nitrogen, Nitrite	mg/L	ND	0.10	02/13/13 08:49	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/13/13 08:49	

LABORATORY CONTROL SAMPLE: 1139687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	109	90-110	
Nitrogen, Nitrite	mg/L	.4	0.41	102	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1139688

Parameter	Units	60138572003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	23.3	16	39.1	98	90-110	
Nitrogen, Nitrite	mg/L	ND	4	4.0	98	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	23.4	20	43.1	98	90-110	

MATRIX SPIKE SAMPLE: 1139690

Parameter	Units	60138538001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5.5	3.2	8.9	108	90-110	
Nitrogen, Nitrite	mg/L	ND	.8	0.97	118	90-110 M1	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	5.5	4	9.9	110	90-110	

SAMPLE DUPLICATE: 1139689

Parameter	Units	60138537002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	1.4	1.4	0	15	
Nitrogen, Nitrite	mg/L	ND	ND		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	1.4	1.4	0	13	

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## REPORT OF LABORATORY ANALYSIS

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Page 33 of 37

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

QC Batch: WETA/16318 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

METHOD BLANK: 750699 Matrix: Water

Associated Lab Samples: 60138572001, 60138572002, 60138572003, 60138572004, 60138572005, 60138572006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/18/13 18:20	

LABORATORY CONTROL SAMPLE: 750700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	101	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 750701 750702

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Total Organic Carbon	mg/L	11.4	37.5	37.5	45.2	45.1	90	90	80-120	0	20	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 750703 750704

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Total Organic Carbon	mg/L	1.1	2.5	2.5	2.8	2.8	66	68	80-120	2	20	M0

## QUALIFIERS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: MSV/51850

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/51867

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- E Analyte concentration exceeded the calibration range. The reported result is estimated.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138572

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138572001	MW-36A-021113	RSK 175	AIR/16769		
60138572002	MW-36B-021113	RSK 175	AIR/16769		
60138572003	MW-30B-021113	RSK 175	AIR/16769		
60138572004	MW-28B-021113	RSK 175	AIR/16769		
60138572005	OBW-3-021113	RSK 175	AIR/16769		
60138572006	OBW-3-021113 AD	RSK 175	AIR/16769		
60138572001	MW-36A-021113	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572002	MW-36B-021113	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572003	MW-30B-021113	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572004	MW-28B-021113	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572005	OBW-3-021113	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572006	OBW-3-021113 AD	EPA 3010	MPRP/21531	EPA 6010	ICP/17305
60138572001	MW-36A-021113	EPA 5030B/8260	MSV/51850		
60138572002	MW-36B-021113	EPA 5030B/8260	MSV/51867		
60138572003	MW-30B-021113	EPA 5030B/8260	MSV/51867		
60138572004	MW-28B-021113	EPA 5030B/8260	MSV/51850		
60138572004	MW-28B-021113	EPA 5030B/8260	MSV/51867		
60138572005	OBW-3-021113	EPA 5030B/8260	MSV/51867		
60138572006	OBW-3-021113 AD	EPA 5030B/8260	MSV/51850		
60138572007	TB-4-021113	EPA 5030B/8260	MSV/51850		
60138572001	MW-36A-021113	SM 2320B	WET/39803		
60138572002	MW-36B-021113	SM 2320B	WET/39803		
60138572003	MW-30B-021113	SM 2320B	WET/39803		
60138572004	MW-28B-021113	SM 2320B	WET/39803		
60138572005	OBW-3-021113	SM 2320B	WET/39803		
60138572006	OBW-3-021113 AD	SM 2320B	WET/39803		
60138572001	MW-36A-021113	SM 2540C	WET/39719		
60138572002	MW-36B-021113	SM 2540C	WET/39719		
60138572003	MW-30B-021113	SM 2540C	WET/39727		
60138572004	MW-28B-021113	SM 2540C	WET/39727		
60138572005	OBW-3-021113	SM 2540C	WET/39727		
60138572006	OBW-3-021113 AD	SM 2540C	WET/39727		
60138572001	MW-36A-021113	SM 4500-H+B	WET/39706		
60138572002	MW-36B-021113	SM 4500-H+B	WET/39706		
60138572003	MW-30B-021113	SM 4500-H+B	WET/39706		
60138572004	MW-28B-021113	SM 4500-H+B	WET/39706		
60138572005	OBW-3-021113	SM 4500-H+B	WET/39706		
60138572006	OBW-3-021113 AD	SM 4500-H+B	WET/39706		
60138572001	MW-36A-021113	SM 4500-S-2 D	WET/39784		
60138572002	MW-36B-021113	SM 4500-S-2 D	WET/39784		
60138572003	MW-30B-021113	SM 4500-S-2 D	WET/39784		
60138572004	MW-28B-021113	SM 4500-S-2 D	WET/39784		
60138572005	OBW-3-021113	SM 4500-S-2 D	WET/39784		

Date: 02/20/2013 04:41 PM

**REPORT OF LABORATORY ANALYSIS**

Page 36 of 37

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138572

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138572006	OBW-3-021113 AD	SM 4500-S-2 D	WET/39784		
60138572001	MW-36A-021113	EPA 300.0	WETA/23522		
60138572002	MW-36B-021113	EPA 300.0	WETA/23522		
60138572003	MW-30B-021113	EPA 300.0	WETA/23522		
60138572004	MW-28B-021113	EPA 300.0	WETA/23538		
60138572005	OBW-3-021113	EPA 300.0	WETA/23522		
60138572006	OBW-3-021113 AD	EPA 300.0	WETA/23522		
60138572001	MW-36A-021113	EPA 353.2	WETA/23510		
60138572002	MW-36B-021113	EPA 353.2	WETA/23510		
60138572003	MW-30B-021113	EPA 353.2	WETA/23513		
60138572004	MW-28B-021113	EPA 353.2	WETA/23513		
60138572005	OBW-3-021113	EPA 353.2	WETA/23513		
60138572006	OBW-3-021113 AD	EPA 353.2	WETA/23513		
60138572001	MW-36A-021113	SM 5310C	WETA/16318		
60138572002	MW-36B-021113	SM 5310C	WETA/16318		
60138572003	MW-30B-021113	SM 5310C	WETA/16318		
60138572004	MW-28B-021113	SM 5310C	WETA/16318		
60138572005	OBW-3-021113	SM 5310C	WETA/16318		
60138572006	OBW-3-021113 AD	SM 5310C	WETA/16318		
60138572001	MW-36A-021113	SM 4500-CO2 D	WETA/23598		
60138572002	MW-36B-021113	SM 4500-CO2 D	WETA/23598		
60138572003	MW-30B-021113	SM 4500-CO2 D	WETA/23598		
60138572004	MW-28B-021113	SM 4500-CO2 D	WETA/23598		
60138572005	OBW-3-021113	SM 4500-CO2 D	WETA/23598		
60138572006	OBW-3-021113 AD	SM 4500-CO2 D	WETA/23598		



## **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a **LEGAL DOCUMENT**. All relevant fields must be completed accurately.

## Section A

**Required Client Information:**

## Section E

### **Required Project Information**

## Section

### **Invoice Information**

Page: / of /

Company: Environmental Operations	Report To: Larry Rosen	Attention:					
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104	Copy To:	Company Name:	<b>REGULATORY AGENCY</b>				
Email To: larryr@environmentalops.com	Purchase Order No.:	Address:	<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER		
Phone: 314-241-0900	Fax: 314-436-2900	Project Name: Solutia Groundwater	Pace Quota Reference:	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	POTW _____
Requested Due Date/TAT:		Project Number:	Pace Project Manager:	Site Location STATE: MO			
			Pace Profile #:				

60138572

Pace Project No./Lab I.D.

2025 RELEASE

PlacePackage E. 38 of 39

<b>SAMPLER NAME AND SIGNATURE</b>			
PRINT Name of SAMPLER:		<i>John Truesdale Jr.</i>	
SIGNATURE of SAMPLER:		<b>DATE Signed</b> MM/DD/YY:	<i>3/11/13</i>
		Temp in °C	Received on ice (Y/N)
		Custody Sealed Cooler (Y/N)	Samples intact: (Y/N)

\*Important: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any amount not paid within 30 days.

E-ALL-Q-030rev.08 12-07

WO# : 60138572



## Sample Condition Upon Receipt



Client Name: ENVI OP

Courier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  611ATracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No 

Optional

Proj Due Date:

Proj Name:

Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  12/11C

Thermometer Used: T-112 / T-194

Type of Ice: Wet  Blue  None  Samples received on ice, cooling process has begun.  
(circle one)

Cooler Temperature: 24.11.2

Date and initials of person examining  
contents: PV 2-12-17

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. NO3
Rush Turn Around Time requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. TWO ID listed on COC twice.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. 0BV-3-02113. One ID on Container is 0BV-3-02113-AD.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10. Did not receive 36A and 36B
Unpreserved 5035A soils frozen w/in 48hrs?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. received 38A and 38B for sample
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. 1 and 2.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses	Matrix: <i>WT</i>	13.
All containers needing preservation have been checked:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Added 2.5 ml of HNO3 to MW-28B 883N.
All containers needing preservation are found to be in compliance with EPA recommendation:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. pH 6.0/1.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <i>PV</i> Lot # of added preservative <i>13094</i>
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased): 121712-3		15.
Headspace in VOA vials (>6mm):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	20f3 D64H MW-28B 16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: *Jeanne Johnson*

2/12/13

Date: \_\_\_\_\_



Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa, KS 66219

(913)599-5665

February 27, 2013

Lawrence Rosen  
Environmental Operations, Inc.  
1530 South Second Street  
Suite 200  
Saint Louis, MO 63104

RE: Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138699

Dear Lawrence Rosen:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that appears to read "Jamie Church".

Jamie Church

jamie.church@pacelabs.com  
Project Manager

Enclosures

cc: Eric Page, Environmental Operations



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 27

## CERTIFICATIONS

Project: SOLUTIA GROUNDWATER  
 Pace Project No.: 60138699

---

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414  
 A2LA Certification #: 2926.01  
 Alaska Certification #: UST-078  
 Alaska Certification #MN00064  
 Arizona Certification #: AZ-0014  
 Arkansas Certification #: 88-0680  
 California Certification #: 01155CA  
 Colorado Certification #Pace  
 Connecticut Certification #: PH-0256  
 EPA Region 8 Certification #: Pace  
 Florida/NELAP Certification #: E87605  
 Georgia Certification #: 959  
 Hawaii Certification #Pace  
 Idaho Certification #: MN00064  
 Illinois Certification #: 200011  
 Kansas Certification #: E-10167  
 Louisiana Certification #: 03086  
 Louisiana Certification #: LA080009  
 Maine Certification #: 2007029  
 Maryland Certification #: 322  
 Michigan DEQ Certification #: 9909  
 Minnesota Certification #: 027-053-137  
 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092  
 Nebraska Certification #: Pace  
 Nevada Certification #: MN\_00064  
 New Jersey Certification #: MN-002  
 New York Certification #: 11647  
 North Carolina Certification #: 530  
 North Dakota Certification #: R-036  
 North Dakota Certification #: R-036A  
 Ohio VAP Certification #: CL101  
 Oklahoma Certification #: 9507  
 Oregon Certification #: MN200001  
 Oregon Certification #: MN300001  
 Pennsylvania Certification #: 68-00563  
 Puerto Rico Certification  
 Tennessee Certification #: 02818  
 Texas Certification #: T104704192  
 Utah Certification #: MN00064  
 Virginia/DCLS Certification #: 002521  
 Virginia/VELAP Certification #: 460163  
 Washington Certification #: C754  
 West Virginia Certification #: 382  
 Wisconsin Certification #: 999407970

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
 Florida/NELAP Certification #: E87948  
 Illinois Certification #: 200050  
 Kentucky Certification #: 82  
 Louisiana Certification #: 04168  
 Minnesota Certification #: 055-999-334

New York Certification #: 11888  
 North Dakota Certification #: R-150  
 South Carolina Certification #: 83006001  
 US Dept of Agriculture #: S-76505  
 Wisconsin Certification #: 405132750

### Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219  
 A2LA Certification #: 2456.01  
 Arkansas Certification #: 12-019-0  
 Illinois Certification #: 002885  
 Iowa Certification #: 118  
 Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055  
 Nevada Certification #: KS000212008A  
 Oklahoma Certification #: 9205/9935  
 Texas Certification #: T104704407-12-3  
 Utah Certification #: KS000212012-2  
 Illinois Certification #: 003097

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Page 2 of 27

### SAMPLE SUMMARY

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60138699001	MW-38A-021313	Water	02/13/13 10:45	02/14/13 07:15
60138699002	MW-38B-021313	Water	02/13/13 12:58	02/14/13 07:15
60138699003	MW-38B-021313-AD	Water	02/13/13 12:58	02/14/13 07:15
60138699004	TB-021313	Water	02/13/13 00:00	02/14/13 07:15

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Page 3 of 27



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Lenexa, KS 66219  
(913)599-5665

## SAMPLE ANALYTE COUNT

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138699

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60138699001	MW-38A-021313	RSK 175	SK4	3	PASI-M
		EPA 6010	TJG	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
60138699002	MW-38B-021313	SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	TJG	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
		EPA 353.2	JML	3	PASI-K
60138699003	MW-38B-021313-AD	SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		RSK 175	SK4	3	PASI-M
		EPA 6010	TJG	2	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K
		SM 2320B	DJR	1	PASI-K
		SM 2540C	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 4500-S-2 D	AJM	1	PASI-K
		EPA 300.0	AJM	2	PASI-K
60138699004	TB-021313	EPA 353.2	JML	3	PASI-K
		SM 5310C	TJJ	1	PASI-G
		SM 4500-CO2 D	AJM	1	PASI-K
		EPA 5030B/8260	PRG	22	PASI-K

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Page 4 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Sample: MW-38A-021313	Lab ID: 60138699001	Collected: 02/13/13 10:45	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	20.1	ug/L	6.2	1		02/19/13 10:36	74-84-0	
Ethene	239	ug/L	6.2	1		02/19/13 10:36	74-85-1	
Methane	114	ug/L	6.6	1		02/19/13 10:36	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	274000	ug/L	50.0	1	02/18/13 10:00	02/19/13 11:16	7439-89-6	M1
Manganese	6060	ug/L	5.0	1	02/18/13 10:00	02/19/13 11:16	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	1000	100		02/27/13 12:35	67-64-1	
Benzene	ND	ug/L	100	100		02/27/13 12:35	71-43-2	
Carbon disulfide	ND	ug/L	500	100		02/27/13 12:35	75-15-0	
Chlorobenzene	532	ug/L	100	100		02/27/13 12:35	108-90-7	
Chloroform	ND	ug/L	100	100		02/27/13 12:35	67-66-3	
1,2-Dichloroethane	ND	ug/L	100	100		02/27/13 12:35	107-06-2	
cis-1,2-Dichloroethene	50100	ug/L	250	250		02/27/13 13:18	156-59-2	M1
trans-1,2-Dichloroethene	ND	ug/L	100	100		02/27/13 12:35	156-60-5	
Ethylbenzene	115	ug/L	100	100		02/27/13 12:35	100-41-4	
Iodomethane	ND	ug/L	1000	100		02/27/13 12:35	74-88-4	
Methylene chloride	ND	ug/L	100	100		02/27/13 12:35	75-09-2	
Tetrachloroethene	1980	ug/L	100	100		02/27/13 12:35	127-18-4	M1
Toluene	110	ug/L	100	100		02/27/13 12:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		02/27/13 12:35	71-55-6	
Trichloroethene	1510	ug/L	100	100		02/27/13 12:35	79-01-6	M1
Vinyl chloride	3870	ug/L	100	100		02/27/13 12:35	75-01-4	M1
Xylene (Total)	ND	ug/L	300	100		02/27/13 12:35	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100	%	80-120	100		02/27/13 12:35	460-00-4	
Dibromofluoromethane (S)	100	%	80-120	100		02/27/13 12:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	80-120	100		02/27/13 12:35	17060-07-0	
Toluene-d8 (S)	100	%	80-120	100		02/27/13 12:35	2037-26-5	
Preservation pH	1.0		0.10	100		02/27/13 12:35		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	288	mg/L	20.0	1		02/19/13 12:58		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	2080	mg/L	5.0	1		02/15/13 15:32		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.6	Std. Units	0.10	1		02/15/13 16:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.29	mg/L	0.050	1		02/17/13 14:01	18496-25-8	M1

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Page 5 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Sample: MW-38A-021313	Lab ID: 60138699001	Collected: 02/13/13 10:45	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	944 mg/L		100	100		02/16/13 10:23	16887-00-6	
Sulfate	72.6 mg/L		10.0	10		02/15/13 20:10	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	0.13 mg/L		0.10	1		02/14/13 16:06		
Nitrogen, Nitrite	ND mg/L		0.10	1		02/14/13 16:06		M1
Nitrogen, NO2 plus NO3	0.17 mg/L		0.10	1		02/14/13 16:06		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	11.4 mg/L		7.5	15		02/18/13 21:41	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	399 mg/L		20.0	1		02/19/13 14:59	124-38-9	

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Page 6 of 27

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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Sample: MW-38B-021313	Lab ID: 60138699002	Collected: 02/13/13 12:58	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/19/13 12:58	74-84-0	
Ethene	12.8 ug/L		6.2	1		02/19/13 12:58	74-85-1	
Methane	19.0 ug/L		6.6	1		02/19/13 12:58	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	518 ug/L		50.0	1	02/18/13 10:00	02/19/13 11:00	7439-89-6	
Manganese	722 ug/L		5.0	1	02/18/13 10:00	02/19/13 11:00	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/27/13 13:33	67-64-1	
Benzene	ND ug/L		1.0	1		02/27/13 13:33	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/27/13 13:33	75-15-0	
Chlorobenzene	58.7 ug/L		1.0	1		02/27/13 13:33	108-90-7	
Chloroform	9.0 ug/L		1.0	1		02/27/13 13:33	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/27/13 13:33	107-06-2	
cis-1,2-Dichloroethene	15.0 ug/L		1.0	1		02/27/13 13:33	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/27/13 13:33	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/27/13 13:33	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/27/13 13:33	74-88-4	
Methylene chloride	1.6 ug/L		1.0	1		02/27/13 13:33	75-09-2	
Tetrachloroethene	12.9 ug/L		1.0	1		02/27/13 13:33	127-18-4	
Toluene	ND ug/L		1.0	1		02/27/13 13:33	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/27/13 13:33	71-55-6	
Trichloroethene	1.3 ug/L		1.0	1		02/27/13 13:33	79-01-6	
Vinyl chloride	12.7 ug/L		1.0	1		02/27/13 13:33	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/27/13 13:33	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		02/27/13 13:33	460-00-4	
Dibromofluoromethane (S)	98 %		80-120	1		02/27/13 13:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	102 %		80-120	1		02/27/13 13:33	17060-07-0	
Toluene-d8 (S)	97 %		80-120	1		02/27/13 13:33	2037-26-5	
Preservation pH	1.0		0.10	1		02/27/13 13:33		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	219 mg/L		20.0	1		02/20/13 08:40		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	751 mg/L		5.0	1		02/15/13 15:33		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4 Std. Units		0.10	1		02/15/13 16:45		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:01	18496-25-8	

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Page 7 of 27



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## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138699

Sample: MW-38B-021313	Lab ID: 60138699002	Collected: 02/13/13 12:58	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	190	mg/L	20.0	20		02/16/13 10:55	16887-00-6	
Sulfate	130	mg/L	10.0	10		02/15/13 21:12	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/14/13 16:11		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/14/13 16:11		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/14/13 16:11		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.1	mg/L	0.50	1		02/18/13 22:35	7440-44-0	M0
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	193	mg/L	20.0	1		02/20/13 16:48	124-38-9	

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Page 8 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Sample: MW-38B-021313-AD	Lab ID: 60138699003	Collected: 02/13/13 12:58	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>RSK 175 AIR Headspace</b>	Analytical Method: RSK 175							
Ethane	ND ug/L		6.2	1		02/19/13 13:30	74-84-0	
Ethene	13.6 ug/L		6.2	1		02/19/13 13:30	74-85-1	
Methane	18.9 ug/L		6.6	1		02/19/13 13:30	74-82-8	
<b>6010 MET ICP</b>	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	496 ug/L		50.0	1	02/18/13 10:00	02/19/13 11:23	7439-89-6	
Manganese	716 ug/L		5.0	1	02/18/13 10:00	02/19/13 11:23	7439-96-5	
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/27/13 13:48	67-64-1	
Benzene	ND ug/L		1.0	1		02/27/13 13:48	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/27/13 13:48	75-15-0	
Chlorobenzene	58.6 ug/L		1.0	1		02/27/13 13:48	108-90-7	
Chloroform	9.1 ug/L		1.0	1		02/27/13 13:48	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/27/13 13:48	107-06-2	
cis-1,2-Dichloroethene	14.4 ug/L		1.0	1		02/27/13 13:48	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/27/13 13:48	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/27/13 13:48	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/27/13 13:48	74-88-4	
Methylene chloride	1.7 ug/L		1.0	1		02/27/13 13:48	75-09-2	
Tetrachloroethene	13.4 ug/L		1.0	1		02/27/13 13:48	127-18-4	
Toluene	ND ug/L		1.0	1		02/27/13 13:48	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/27/13 13:48	71-55-6	
Trichloroethene	1.3 ug/L		1.0	1		02/27/13 13:48	79-01-6	
Vinyl chloride	12.4 ug/L		1.0	1		02/27/13 13:48	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/27/13 13:48	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	99 %		80-120	1		02/27/13 13:48	460-00-4	
Dibromofluoromethane (S)	100 %		80-120	1		02/27/13 13:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		80-120	1		02/27/13 13:48	17060-07-0	
Toluene-d8 (S)	98 %		80-120	1		02/27/13 13:48	2037-26-5	
Preservation pH	1.0		0.10	1		02/27/13 13:48		
<b>2320B Alkalinity</b>	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	216 mg/L		20.0	1		02/20/13 08:48		
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C							
Total Dissolved Solids	765 mg/L		5.0	1		02/15/13 15:33		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.5 Std. Units		0.10	1		02/15/13 16:20		H6
<b>4500S2D Sulfide, Total</b>	Analytical Method: SM 4500-S-2 D							
Sulfide, Total	ND mg/L		0.050	1		02/17/13 14:01	18496-25-8	

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Page 9 of 27

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Sample: MW-38B-021313-AD	Lab ID: 60138699003	Collected: 02/13/13 12:58	Received: 02/14/13 07:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0							
Chloride	200	mg/L	10.0	10		02/15/13 21:58	16887-00-6	
Sulfate	129	mg/L	10.0	10		02/15/13 21:58	14808-79-8	
<b>353.2 Nitrogen, NO2/NO3 unpres</b>	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		02/14/13 16:13		
Nitrogen, Nitrite	ND	mg/L	0.10	1		02/14/13 16:13		
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	1		02/14/13 16:13		
<b>5310C TOC</b>	Analytical Method: SM 5310C							
Total Organic Carbon	1.9	mg/L	1.0	2		02/18/13 23:30	7440-44-0	
<b>Carbon Dioxide Calculation</b>	Analytical Method: SM 4500-CO2 D							
Carbon dioxide	190	mg/L	20.0	1		02/20/13 16:48	124-38-9	

## ANALYTICAL RESULTS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

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Sample: TB-021313      Lab ID: 60138699004      Collected: 02/13/13 00:00      Received: 02/14/13 07:15      Matrix: Water

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Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		02/27/13 14:02	67-64-1	
Benzene	ND ug/L		1.0	1		02/27/13 14:02	71-43-2	
Carbon disulfide	ND ug/L		5.0	1		02/27/13 14:02	75-15-0	
Chlorobenzene	ND ug/L		1.0	1		02/27/13 14:02	108-90-7	
Chloroform	ND ug/L		1.0	1		02/27/13 14:02	67-66-3	
1,2-Dichloroethane	ND ug/L		1.0	1		02/27/13 14:02	107-06-2	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		02/27/13 14:02	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		02/27/13 14:02	156-60-5	
Ethylbenzene	ND ug/L		1.0	1		02/27/13 14:02	100-41-4	
Iodomethane	ND ug/L		10.0	1		02/27/13 14:02	74-88-4	
Methylene chloride	ND ug/L		1.0	1		02/27/13 14:02	75-09-2	
Tetrachloroethene	ND ug/L		1.0	1		02/27/13 14:02	127-18-4	
Toluene	ND ug/L		1.0	1		02/27/13 14:02	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	1		02/27/13 14:02	71-55-6	
Trichloroethene	ND ug/L		1.0	1		02/27/13 14:02	79-01-6	
Vinyl chloride	ND ug/L		1.0	1		02/27/13 14:02	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		02/27/13 14:02	1330-20-7	
<b>Surrogates</b>								
4-Bromofluorobenzene (S)	100 %		80-120	1		02/27/13 14:02	460-00-4	
Dibromofluoromethane (S)	104 %		80-120	1		02/27/13 14:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		80-120	1		02/27/13 14:02	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		02/27/13 14:02	2037-26-5	
Preservation pH	1.0		0.10	1		02/27/13 14:02		



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: AIR/16789 Analysis Method: RSK 175  
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE  
Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1379283 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	02/19/13 10:22	
Ethene	ug/L	ND	6.2	02/19/13 10:22	
Methane	ug/L	ND	6.6	02/19/13 10:22	

LABORATORY CONTROL SAMPLE & LCSD: 1379284 1379285

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	112	112	98	99	85-115	.4	20	
Ethene	ug/L	106	104	104	98	98	85-115	.4	20	
Methane	ug/L	60.7	60.4	60.8	100	100	85-115	.6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1379562 1379563

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Ethane	ug/L	ND	120	114	107	116	88	101	63-129	9	20	
Ethene	ug/L	12.8	112	106	112	120	89	101	63-126	7	20	
Methane	ug/L	19.0	63.8	60.7	77.2	83.0	91	106	30-150	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1379722 1379723

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Ethane	ug/L	20.1	126	134	157	135	108	86	63-129	15	20	
Ethene	ug/L	239	118	125	338	282	84	34	63-126	18	20	2e,M0
Methane	ug/L	114	67.4	71.4	141	123	40	12	30-150	14	20	1e,M0

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Page 12 of 27

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: MPRP/21555 Analysis Method: EPA 6010

QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1142079 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Iron	ug/L	ND	50.0	02/19/13 10:58	
Manganese	ug/L	ND	5.0	02/19/13 10:58	

LABORATORY CONTROL SAMPLE: 1142080

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Iron	ug/L	10000	10100	101	80-120	
Manganese	ug/L	1000	1050	105	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1142081 1142082

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60138699001	Spike	Spike	Result	Result	Result	% Rec	Limits	RPD	RPD	RPD	Qual
Iron	ug/L	274000	10000	10000	285000	299000	111	250	75-125	5	20	M1	
Manganese	ug/L	6060	1000	1000	6920	7110	86	105	75-125	3	20		

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1142083 1142084

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60138699002	Spike	Spike	Result	Result	Result	% Rec	Limits	RPD	RPD	RPD	Qual
Iron	ug/L	518	10000	10000	10400	10400	99	99	75-125	1	20		
Manganese	ug/L	722	1000	1000	1730	1730	100	101	75-125	0	20		



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: MSV/52035 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60138699001, 60138699002, 60138699003, 60138699004

METHOD BLANK: 1144914 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003, 60138699004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	02/27/13 12:20	
1,2-Dichloroethane	ug/L	ND	1.0	02/27/13 12:20	
Acetone	ug/L	ND	10.0	02/27/13 12:20	
Benzene	ug/L	ND	1.0	02/27/13 12:20	
Carbon disulfide	ug/L	ND	5.0	02/27/13 12:20	
Chlorobenzene	ug/L	ND	1.0	02/27/13 12:20	
Chloroform	ug/L	ND	1.0	02/27/13 12:20	
cis-1,2-Dichloroethene	ug/L	ND	1.0	02/27/13 12:20	
Ethylbenzene	ug/L	ND	1.0	02/27/13 12:20	
Iodomethane	ug/L	ND	10.0	02/27/13 12:20	
Methylene chloride	ug/L	ND	1.0	02/27/13 12:20	
Tetrachloroethene	ug/L	ND	1.0	02/27/13 12:20	
Toluene	ug/L	ND	1.0	02/27/13 12:20	
trans-1,2-Dichloroethene	ug/L	ND	1.0	02/27/13 12:20	
Trichloroethene	ug/L	ND	1.0	02/27/13 12:20	
Vinyl chloride	ug/L	ND	1.0	02/27/13 12:20	
Xylene (Total)	ug/L	ND	3.0	02/27/13 12:20	
1,2-Dichloroethane-d4 (S)	%	98	80-120	02/27/13 12:20	
4-Bromofluorobenzene (S)	%	100	80-120	02/27/13 12:20	
Dibromofluoromethane (S)	%	102	80-120	02/27/13 12:20	
Toluene-d8 (S)	%	99	80-120	02/27/13 12:20	

LABORATORY CONTROL SAMPLE: 1144915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	103	75-124	
1,2-Dichloroethane	ug/L	20	20.1	101	72-122	
Acetone	ug/L	100	82.1	82	60-126	
Benzene	ug/L	20	20.3	102	73-122	
Carbon disulfide	ug/L	20	18.7	94	62-125	
Chlorobenzene	ug/L	20	21.1	105	80-120	
Chloroform	ug/L	20	19.5	97	76-120	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	69-120	
Ethylbenzene	ug/L	20	20.8	104	76-123	
Iodomethane	ug/L	20	20.7	104	40-160	
Methylene chloride	ug/L	20	19.2	96	71-123	
Tetrachloroethene	ug/L	20	20.5	102	79-122	
Toluene	ug/L	20	20.6	103	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.0	100	78-126	
Trichloroethene	ug/L	20	19.8	99	76-120	
Vinyl chloride	ug/L	20	18.9	95	57-140	

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Page 14 of 27

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

LABORATORY CONTROL SAMPLE: 1144915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	63.1	105	76-122	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1144916 1144917

Parameter	Units	60138699001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
			Spike Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/L	ND	2000	2000	1970	1930	99	96	72-139	2	22	
1,2-Dichloroethane	ug/L	ND	2000	2000	2020	1980	101	99	53-144	2	27	
Acetone	ug/L	ND	10000	10000	8000	8150	79	80	40-139	2	24	
Benzene	ug/L	ND	2000	2000	2010	1960	100	97	48-150	3	31	
Carbon disulfide	ug/L	ND	2000	2000	1750	1690	87	84	57-137	3	22	
Chlorobenzene	ug/L	532	2000	2000	3100	3030	128	125	68-131	2	22	
Chloroform	ug/L	ND	2000	2000	1960	1910	98	95	69-126	3	20	
cis-1,2-Dichloroethene	ug/L	50100	2000	2000	78200	77000	1405	1347	63-127	2	20	M1
Ethylbenzene	ug/L	115	2000	2000	2290	2220	109	105	50-147	3	31	
Iodomethane	ug/L	ND	2000	2000	1670	1650	84	83	40-135	1	30	
Methylene chloride	ug/L	ND	2000	2000	1840	1810	91	89	67-128	1	20	
Tetrachloroethene	ug/L	1980	2000	2000	5850	5800	193	191	66-139	1	20	M1
Toluene	ug/L	110	2000	2000	2270	2220	108	106	51-147	2	32	
trans-1,2-Dichloroethene	ug/L	ND	2000	2000	2110	2030	101	98	73-142	4	20	
Trichloroethene	ug/L	1510	2000	2000	4890	4860	169	167	67-130	1	20	M1
Vinyl chloride	ug/L	3870	2000	2000	9060	8760	260	245	47-159	3	20	M1
Xylene (Total)	ug/L	ND	6000	6000	6780	6670	111	109	49-145	2	31	
1,2-Dichloroethane-d4 (S)	%						100	100	80-120			
4-Bromofluorobenzene (S)	%						99	102	80-120			
Dibromofluoromethane (S)	%						101	100	80-120			
Toluene-d8 (S)	%						100	100	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 1144918 1144919

Parameter	Units	60138699002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
			Spike Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/L	ND	20	20	21.4	21.6	107	108	72-139	1	22	
1,2-Dichloroethane	ug/L	ND	20	20	19.9	20.3	100	102	53-144	2	27	
Acetone	ug/L	ND	100	100	64.9	72.2	65	72	40-139	11	24	
Benzene	ug/L	ND	20	20	20.4	20.7	100	102	48-150	1	31	
Carbon disulfide	ug/L	ND	20	20	19.4	20.1	93	96	57-137	3	22	
Chlorobenzene	ug/L	58.7	20	20	76.7	77.5	90	94	68-131	1	22	
Chloroform	ug/L	9.0	20	20	28.6	29.0	98	100	69-126	2	20	
cis-1,2-Dichloroethene	ug/L	15.0	20	20	33.6	34.4	93	97	63-127	2	20	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

Parameter	Units	MS		MSD		MS Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
		60138699002	Spike Conc.	Spike Conc.	MS Result					RPD	RPD
Ethylbenzene	ug/L	ND	20	20	21.0	21.3	105	107	50-147	2	31
Iodomethane	ug/L	ND	20	20	18.2	19.8	91	99	40-135	8	30
Methylene chloride	ug/L	1.6	20	20	20.0	20.3	92	94	67-128	2	20
Tetrachloroethene	ug/L	12.9	20	20	34.1	34.1	106	106	66-139	0	20
Toluene	ug/L	ND	20	20	20.4	20.9	102	104	51-147	2	32
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.7	20.8	101	102	73-142	1	20
Trichloroethene	ug/L	1.3	20	20	21.2	21.3	99	100	67-130	1	20
Vinyl chloride	ug/L	12.7	20	20	30.7	30.9	90	91	47-159	1	20
Xylene (Total)	ug/L	ND	60	60	61.0	63.5	102	106	49-145	4	31
1,2-Dichloroethane-d4 (S)	%						101	101	80-120		
4-Bromofluorobenzene (S)	%						100	101	80-120		
Dibromofluoromethane (S)	%						100	100	80-120		
Toluene-d8 (S)	%						98	99	80-120		
Preservation pH		1.0			1.0	1.0				0	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WET/39820 Analysis Method: SM 2320B  
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity  
Associated Lab Samples: 60138699001

METHOD BLANK: 1142607 Matrix: Water

Associated Lab Samples: 60138699001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/19/13 11:48	

LABORATORY CONTROL SAMPLE: 1142608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	523	105	90-110	

SAMPLE DUPLICATE: 1142609

Parameter	Units	60138608003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	174	198	13	10	D6

SAMPLE DUPLICATE: 1142610

Parameter	Units	60138699001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	288	287	0	10	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch:	WET/39828	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60138699002, 60138699003		

METHOD BLANK: 1142869 Matrix: Water

Associated Lab Samples: 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	ND	20.0	02/20/13 08:36	

LABORATORY CONTROL SAMPLE: 1142870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	500	483	97	90-110	

SAMPLE DUPLICATE: 1142871

Parameter	Units	60138699002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	219	217	1	10	

SAMPLE DUPLICATE: 1142872

Parameter	Units	60138666001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	242	240	1	10	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WET/39776 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1141360 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	02/15/13 15:32	

SAMPLE DUPLICATE: 1141361

Parameter	Units	60138699001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2080	2170	5	17	

SAMPLE DUPLICATE: 1141362

Parameter	Units	60138699002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	751	743	1	17	

## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WET/39778 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138699003

SAMPLE DUPLICATE: 1141440

Parameter	Units	60138614001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

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## REPORT OF LABORATORY ANALYSIS

Page 20 of 27

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### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WET/39779 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60138699001, 60138699002

SAMPLE DUPLICATE: 1141453

Parameter	Units	60138699001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.6	6.6	0	5	H6

SAMPLE DUPLICATE: 1141454

Parameter	Units	60138699002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	5	H6

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WET/39784 Analysis Method: SM 4500-S-2 D  
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total  
Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1141907 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	02/17/13 14:00	

LABORATORY CONTROL SAMPLE: 1141908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.5	0.51	101	80-120	

MATRIX SPIKE SAMPLE: 1141909

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.29	.5	0.39	20	75-125 M1	

MATRIX SPIKE SAMPLE: 1141910

Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.5	0.44	85	75-125	

**QUALITY CONTROL DATA**

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WETA/23560 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1141062 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/15/13 19:23	
Sulfate	mg/L	ND	1.0	02/15/13 19:23	

METHOD BLANK: 1141508 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/16/13 09:52	
Sulfate	mg/L	ND	1.0	02/16/13 09:52	

LABORATORY CONTROL SAMPLE: 1141063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

LABORATORY CONTROL SAMPLE: 1141509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE SAMPLE: 1141064

Parameter	Units	60138699001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	944	500	1380	88	64-118	
Sulfate	mg/L	72.6	50	120	94	61-119	

MATRIX SPIKE SAMPLE: 1141065

Parameter	Units	60138699002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	190	100	272	82	64-118	
Sulfate	mg/L	130	50	173	87	61-119	



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## QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch: WETA/23549 Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 60138699001, 60138699002, 60138699003

METHOD BLANK: 1140800 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/14/13 16:02	
Nitrogen, Nitrite	mg/L	ND	0.10	02/14/13 16:02	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.10	02/14/13 16:02	

LABORATORY CONTROL SAMPLE: 1140801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	109	90-110	
Nitrogen, Nitrite	mg/L	.4	0.39	99	90-110	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1140812

Parameter	Units	60138699001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.13	1.6	1.8	105	90-110	
Nitrogen, Nitrite	mg/L	ND	.4	0.39	87	90-110 M1	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.17	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1140803

Parameter	Units	60138699002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.8		15	
Nitrogen, Nitrite	mg/L	ND	0.40		31	
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2.2		13	

Date: 02/27/2013 05:38 PM

## REPORT OF LABORATORY ANALYSIS

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Page 24 of 27

### QUALITY CONTROL DATA

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

QC Batch:	WETA/16318	Analysis Method:	SM 5310C
QC Batch Method:	SM 5310C	Analysis Description:	5310C Total Organic Carbon
Associated Lab Samples:	60138699001, 60138699002, 60138699003		

METHOD BLANK: 750699 Matrix: Water

Associated Lab Samples: 60138699001, 60138699002, 60138699003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	02/18/13 18:20	

LABORATORY CONTROL SAMPLE: 750700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 750701 750702

Parameter	Units	60138699001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Total Organic Carbon	mg/L	11.4	37.5	37.5	45.2	45.1	90	90	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 750703 750704

Parameter	Units	60138699002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	RPD	Max Qual
Total Organic Carbon	mg/L	1.1	2.5	2.5	2.8	2.8	66	68	80-120	2	20	M0

## QUALIFIERS

Project: SOLUTIA GROUNDWATER

Pace Project No.: 60138699

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

### ANALYTE QUALIFIERS

- 1e Sample is 1.72 times spike amount.
- 2e Sample is 2.26 times spike amount.
- D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
- H6 Analysis initiated outside of the 15 minute EPA recommended holding time.
- M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: SOLUTIA GROUNDWATER  
Pace Project No.: 60138699

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60138699001	MW-38A-021313	RSK 175	AIR/16789		
60138699002	MW-38B-021313	RSK 175	AIR/16789		
60138699003	MW-38B-021313-AD	RSK 175	AIR/16789		
60138699001	MW-38A-021313	EPA 3010	MPRP/21555	EPA 6010	ICP/17324
60138699002	MW-38B-021313	EPA 3010	MPRP/21555	EPA 6010	ICP/17324
60138699003	MW-38B-021313-AD	EPA 3010	MPRP/21555	EPA 6010	ICP/17324
60138699001	MW-38A-021313	EPA 5030B/8260	MSV/52035		
60138699002	MW-38B-021313	EPA 5030B/8260	MSV/52035		
60138699003	MW-38B-021313-AD	EPA 5030B/8260	MSV/52035		
60138699004	TB-021313	EPA 5030B/8260	MSV/52035		
60138699001	MW-38A-021313	SM 2320B	WET/39820		
60138699002	MW-38B-021313	SM 2320B	WET/39828		
60138699003	MW-38B-021313-AD	SM 2320B	WET/39828		
60138699001	MW-38A-021313	SM 2540C	WET/39776		
60138699002	MW-38B-021313	SM 2540C	WET/39776		
60138699003	MW-38B-021313-AD	SM 2540C	WET/39776		
60138699001	MW-38A-021313	SM 4500-H+B	WET/39779		
60138699002	MW-38B-021313	SM 4500-H+B	WET/39779		
60138699003	MW-38B-021313-AD	SM 4500-H+B	WET/39778		
60138699001	MW-38A-021313	SM 4500-S-2 D	WET/39784		
60138699002	MW-38B-021313	SM 4500-S-2 D	WET/39784		
60138699003	MW-38B-021313-AD	SM 4500-S-2 D	WET/39784		
60138699001	MW-38A-021313	EPA 300.0	WETA/23560		
60138699002	MW-38B-021313	EPA 300.0	WETA/23560		
60138699003	MW-38B-021313-AD	EPA 300.0	WETA/23560		
60138699001	MW-38A-021313	EPA 353.2	WETA/23549		
60138699002	MW-38B-021313	EPA 353.2	WETA/23549		
60138699003	MW-38B-021313-AD	EPA 353.2	WETA/23549		
60138699001	MW-38A-021313	SM 5310C	WETA/16318		
60138699002	MW-38B-021313	SM 5310C	WETA/16318		
60138699003	MW-38B-021313-AD	SM 5310C	WETA/16318		
60138699001	MW-38A-021313	SM 4500-CO2 D	WETA/23598		
60138699002	MW-38B-021313	SM 4500-CO2 D	WETA/23619		
60138699003	MW-38B-021313-AD	SM 4500-CO2 D	WETA/23619		



# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information:

Company: Environmental Operations	Report To: Larry Rosen	Attention:	Page: / of /
Address: 1530 S. Second St. Ste. 200 St. Louis, MO 63104	Copy To:	Company Name:	<b>REGULATORY AGENCY</b>
Email To: larryr@environmentalops.com	Purchase Order No:	Address:	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/> POTW
Phone: 314-241-0900 Fax: 314-436-2900	Project Name: Solutia Groundwater	Pace Project Manager:	<b>Site Location</b>
Requested Due Date/TAT:	Project Number:	Pace Profile #:	<b>STATE:</b> MO

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE (see valid codes to left) (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test	Requested Analysis Filtered (Y/N)																
						COMPOSITE START				COMPOSITE END/GRAB																			
						DATE	TIME			DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	N	N	N	N	N	N	N	N	N			
1	MW-38A-021313	WT G				2/13	10:45					61694U							X X	X X	X X	X X	X X	X X	X X	X X	X X	2BPA 2BPN 2BPZ 2A635 9D6H (S)	
2	MW-38A-021313	WT G				2/13	12:55					↓							X X	X X	X X	X X	X X	X X	X X	X X	X X	↓ ↓ ↓ ↓ (S)	
3	MW-38B-021313 AD	WT G				2/13	12:58					316AU							X X	X X	X X	X X	X X	X X	X X	X X	X X	1BPA 1BPN 1BPZ 2A635 9D6H (S)	
4	TA-021313	WT G				2/13	0:00												X										CR37
5		WT G																											
6		WT G																											
7		WT G																											
8		WT G																											
9		WT G																											
10		WT G																											
11		WT G																											
12		WT G																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
2/13/13 1500	2/13/13 1500	2/13/13	1500	2/14/13 0715	2/14/13	0715	0.4	y	y	y
2/13/13 0227	Bonell CR37	2/14/13	0715				2.0	y	y	y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER: Tom Jones Jr.	SIGNATURE of SAMPLER: Tom Jones Jr.				



## Sample Condition Upon Receipt

WO# : 60138699



Client Name: Env. Ops.

Courier: Fed Ex  UPS  USPS  Client  Commercial  Pace  Other  VIATracking #: \_\_\_\_\_ Pace Shipping Label Used? Yes  No 

Optional
Proj Due Date
Proj Name:

Custody Seal on Cooler/Box Present: Yes  No  Seals intact: Yes  No Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  PLCThermometer Used: T-112 / T-194 Type of Ice:  Wet  Blue  None Samples received on ice, cooling process has begun

Cooler Temperature: 0.4, 2.0

(circle one)

Date and initials of person examining contents: 2/14/13 BA

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. No
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses	Matrix: WT	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14. MW38A pH on metals are high above 6.0. Added
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water). Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed BA Lot # of added preservative 13014
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	preservative and went down to 1.0 pH.
Pace Trip Blank lot # (if purchased): 131712-3		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_

2/14/13

Date: \_\_\_\_\_